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HIGHWAY FATALITY AND INJURY REDUCTION ACT OF 1991

HEARING

BEFORE THE

SUBCOMMITTEE ON THE CONSUMER

OF THE

COMMITTEE ON COMMERCE SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED SECOND CONGRESS

FIRST SESSION

ON

S. 591

TO REQUIRE AIRBAGS FOR CERTAIN NEWLY MANUFACTURED VEHICLES

MARCH 21, 1991

Printed for the use of the Committee on Commerce, Science, and Transportation

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HIGHWAY FATALITY AND INJURY REDUCTION ACT OF 1991

THURSDAY, MARCH 21, 1991

U.S. SENATE,
SUBCOMMITTEE ON THE CONSUMER,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 1:46 a.m., in room SR-253, Russell Senate Office Building, Hon. Richard Bryan (chairman of the subcommittee), presiding.

Staff members assigned to this hearing: Linda Lance and Moses Boyd, staff counsels and Alan Maness, minority staff counsel.

OPENING STATEMENT BY SENATOR BRYAN

Senator BRYAN. I would like to welcome everyone to the subcommittee hearing this morning on S. 591, and to preface my comments with an apology to my colleague, the ranking member of the subcommittee, and to the witnesses and others, that I was delayed because of a little matter involving high-level nuclear waste and its appropriate disposition, a matter that is of some interest to Nevada. So I think you will understand the nature of the concern that we have.

We are here this morning to receive testimony on S. 591, the Highway Fatality and Injury Reduction Act. This bill will require driver and passenger side airbags in cars, vans, light trucks, and jeeps. No other single safety feature can save as many lives as airbags—at least 9,000 lives per year. Airbags can also prevent more than 155,000 other types of injuries each year.

Indeed, if the airbag rule originally proposed in 1970 had remained in effect, we could have prevented 162,000 unnecessary deaths, and that is more than twice the number of lives lost in the Vietnam War.

Airbags provide an important example of the potential for enhancing safety through technology, and a lesson in how difficult it can be to get that technology to the consumer.

I was interested and somewhat surprised to learn that the very first patents for airbags were issued in the 1950's. What I, together with my colleagues, Senators Danforth and Gorton, intend to do through S. 591 is to ensure that this safety technology developed in the 1950's be made available to the Nation's motorists in the 1990's. I do not think that there can be any doubt that it is time for that to happen.

Everyone agrees that people are safer in cars that have airbags, and we have dramatic examples of more and more people who literally owe their lives to the

airbags in their cars. We will hear some of that testimony later today. However, the law is lagging behind technology.

Current law requires, at most, that cars have either automatic seat belts or airbags in the front seat of the vehicle. For the important category of other passenger vehicles, including the minivans used by many families, small pick-up trucks and jeeps, there was no such requirement until—I believe General Curry may be making an announcement today.

This rule is an important first step, but like the rule for cars, it does not require airbags, as our legislation would do. It permits the manufacturer the option of either the automatic seat belts or airbags, and I believe the testimony will overwhelmingly support that airbags are much safer than automatic seat belts.

There are those who will say that the current law is sufficient. Even though airbags are not required, they are being provided voluntarily by manufacturers. First, I think it is important to note that current law permits use of automatic seat belts instead of airbags, and yet there is no question that a car equipped with an airbag and a manual seat belt is far safer than one with an automatic seat belt.

You will also hear testimony that we can rely upon good faith efforts of the industry to achieve these types of things. I think the record would reflect that the industry over the years has resisted any attempt to impose airbag standards.

Today we will hear testimony of representatives from the industry itself and others, including safety advocates who will support the legislation that we have offered.

Let me now defer, if I may, to the ranking member of the subcommittee, Senator Gorton, for an opening statement, if he cares to make it.

OPENING STATEMENT BY SENATOR GORTON

Senator GORTON. Just 2 weeks ago, I was pleased to join with Senator Bryan and co-sponsor the bill before the subcommittee today, a bill which will mandate airbags in all new cars sold in the United States.

I am pleased that Senator Bryan acted so quickly in scheduling a hearing on this most important safety measure. I have long been a proponent of airbags, having co-authored bills with Senator Danforth in 1981 and 1983 designed to give tax incentives to purchasers of airbag equipped cars.

The bill before the subcommittee today would mandate that by September 1, 1995, all new passenger cars sold in the United States be equipped with airbags on both the driver's and passenger's sides. It would also require that all new light trucks, jeeps, and minivans have driver's side airbags by September 1, 1996, and both passenger and driver's side airbags a year later.

Present rules require automobile manufacturers to install either airbags or other passive restraint systems to protect the driver in the event of a head-on collision. Just today, I understand that General Curry will make a long-overdue but most welcome announcement that light trucks will soon have to comply with the passive restraint rule.

This is a major step in the right direction, but I am convinced that we must go further and require the most effective passive restraint system—airbags—be installed in all vehicles.

About 40 percent of all new cars now come with airbags. Some manufacturers, such as Chrysler, made a decision to provide driver's side airbags as standard equipment in all their new 1990 cars. Other manufacturers chose to comply with the law by using either motorized or nonmotorized seat belts.

While data on the new passive restraint systems is still being compiled, the preliminary results appear to be overwhelming. Airbags are dramatically effective in saving lives and reducing serious injuries.

Unfortunately, the other passive restraint systems are not nearly as effective. The vast majority of motorized and nonmotorized seat belts are either disconnected or are being used improperly. Many people driving or riding in cars with the new motorized seat belts fail to connect the lap belt. Automatic belts seem to give passengers a false sense of security, resulting in serious injuries when people slide under the shoulder belts because their lap belt is unbuckled.

In 1984, in its passive restraint rule, the Department of Transportation estimated that if airbags were generally available in all cars, 8,000 lives a year would be saved. Thousands of others would be saved from serious injuries.

Some of us in the Congress fought long and hard during the early 1980's to get airbags in cars. I regret that we were only partially successful. Today, I hope the fight will be easier. Consumers are already hearing about terrible accidents in which cars are demolished but from which the driver walks away virtually unscathed.

Some auto manufacturers have already recognized that more and more people are making buying decisions based upon the availability of lifesaving airbags. Many of them have already decided to put airbags in cars more rapidly than the mandated targets of our bill. I am delighted with the responsible policies of those companies, and challenge other auto manufacturers, as well as the light truck manufacturers, to get on board and to support this worthy goal.

Senator BRYAN. Thank you very much, Senator Gorton. Let me now yield to the ranking member of the full committee, Senator Danforth.

OPENING STATEMENT BY SENATOR DANFORTH

Senator DANFORTH. Mr. Chairman, thank you very much.

I want to welcome General Curry to the committee for his mystery announcement, and say that over the last number of years I have been, I guess, the most vocal critic in the Senate of NHTSA and of General Curry's predecessors.

I can remember interviewing General Curry, meeting with General Curry before his confirmation hearing and talking to him about his aspirations for NHTSA, and he impressed me as a person who is genuinely committed to the safety mission of his agency and to saving people's lives, and he has been very, very productive in this agency.

His rulemaking on side impact protection was a long time coming. It had been lost in the works at DOT, and he brought the rulemaking out and announced it some months ago, and now we understand he has another announcement to make relating to airbags in light trucks and in vans.

The airbags are a proven technology. I can remember when they were a new idea. People said well, is this going to work, or are they going to deploy when people are just driving down the street minding their own business? The answer is that the facts are now in, and that airbags are working magnificently.

One insurance company—State Farm—has kept records of how the airbags have done where they have been deployed in cars insured by that insurance company. State Farm has had 2,199 automobiles that have been covered by their policies where the airbags have been deployed.

Bear in mind that deployment of an airbag requires a collision of at least something like 20 miles an hour, and 2,199 deployments have taken place in State Farm-insured automobiles and all but 3 of the people riding in those cars, the passengers who were involved, survived the accident. It is just an absolutely magnificent accomplishment.

In my State of Missouri alone, State Farm says that it thinks that 90 of its policyholders have been saved from death or more serious injuries by airbags. We talk so often about death, but death is only part of it. Sometimes there are

things worse than death, and one thing that to many people and many families is worse than death is a serious head injury which incapacitates a person for the rest of his or her life, and this is why the Head Injury Foundation has been so involved in this effort.

So airbags are proven, and unfortunately about a third or so of the vehicles that are now produced are not covered by the airbag rule because they are light vans or trucks or vehicles that are presently exempted, and that is what we are talking about with this legislation, and that is what I think General Curry may be talking about later.

Pick-up trucks I suppose were first invented for hauling things, and the same for vans. They now haul people. They are family vehicles, especially the minivans. Families, people with little kids, buy these and use them for the purpose of taking the Little League around town, or the Girl Scout Troop, so if we can cover these vehicles we are going to be saving a lot of lives and we are going to be saving a lot of families a lot of misery.

Mr. Chairman, thank you for your leadership, and General Curry, again, I want to express to you my gratitude for your service as the Administrator of NHTSA and my admiration for what you have been able to accomplish. I know it is not easy to get rules through any bureaucracy, and you have been very, very tenacious and very good, and I appreciate it.

Mr. CURRY. Thank you, sir.

Senator BRYAN. Senator Danforth, thank you very much for your statement.

[The bill follows:]

102D CONGRESS
1ST SESSION

S. 591

To require airbags for certain newly manufactured vehicles.

IN THE SENATE OF THE UNITED STATES

MARCH 7 (legislative day, FEBRUARY 6), 1991

Mr. BRYAN (for himself, Mr. DANFORTH, Mr. GORTON, and Mr. ADAMS) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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A BILL

To require airbags for certain newly manufactured vehicles.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "Highway Fatality and Injury Reduction Act of 1991".

DEFINITIONS

SEC. 2. In this Act, the term—

(1) "bus" means a motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons and having a gross vehicle weight

rating of 8,500 pounds or less and an unloaded vehicle weight of 5,500 pounds or less.

(2) "multipurpose passenger vehicle" means a motor vehicle with motive power (except a trailer), designed to carry 10 persons or less, which is constructed either on a truck chassis or with special features for occasional off-road operation, and which has a gross vehicle weight rating of 8,500 pounds or less and an unloaded vehicle weight of 5,500 pounds or less.

(3) "passenger car" means a motor vehicle with motive power (except a multipurpose passenger vehicle, motorcycle, or trailer), designed for carrying 10 persons or less.

(4) "truck" means a motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special purpose equipment and having a gross vehicle weight rating of 8,500 pounds or less and an unloaded vehicle weight of 5,500 pounds or less.

AIRBAGS

SEC. 3. (a) Passenger cars, trucks, buses, and multipurpose passenger vehicles shall, in accordance with the following schedule, be equipped with airbags complying with the occupant crash protection requirements under S4.1.2.1 of Federal Motor Vehicle Safety Standard 208,

published as section 571.208 of title 49, Code of Federal Regulations:

(1) All passenger cars manufactured on and after September 1, 1995, shall be so equipped for both the driver and right front seat outboard seating positions.

(2) All trucks, buses, and multipurpose passenger vehicles manufactured on and after September 1, 1996, and before September 1, 1997, shall, at a minimum, be so equipped for the driver side.

(3) All trucks, buses, and multipurpose passenger vehicles manufactured on and after September 1, 1997, shall be so equipped for both the driver and right front seat outboard seating positions.

(b) For purposes of sections 108 through 112, 114, 115, 116, 118, 120, 121, and 151 through 158 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1397 though 1401, 1403, 1404, 1405, 1406, 1408, 1409, and 1411 through 1418), the requirements of subsection (a) are deemed to be a Federal motor vehicle safety standard prescribed pursuant to section 103 of that Act (15 U.S.C. 1392).

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Senator BRYAN. General Curry, welcome to the hearing—this announcement is clouded with some mystery, but I think everybody knows what it is. We are delighted to have you here, and to share with us where the agency is and what your intentions are. So we tender the floor to you.

STATEMENT OF HON. JERRY RALPH CURRY, ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION; ACCOMPANIED BY BARRY FELRICE, ASSOCIATE ADMINISTRATOR FOR RULEMAKING; AND DONALD BISCHOFF, ASSOCIATE ADMINISTRATOR FOR PLANS AND POLICY

Mr. CURRY. Thank you, Mr. Chairman. I would like to make the mystery announcement and then a few remarks concerning the hearing today on airbags.

There is a little bit of history with this, and I will be brief. Secretary Skinner, during his confirmation hearing, asked very specifically whether he was going to champion this cause. At that time he promised all of you in the committee that he would do that.

During my confirmation hearing, you were all very pointed about this along with the side impact, how important that was. I promised to you that we would deliver this particular rule.

On the 28th of last month at your hearing, Mr. Chairman, Senator Danforth, in his usual kind and gentle way, looked me in the face and said, "I want that out, and if you do not get it out, call me and tell me you did not get it out."

So, I am very pleased then, today, to be able to announce that requirements for front seat automatic crash protection will be extended to vans, light trucks, utility vehicles and small buses, an action which will save about 2,000 additional lives each year.

The agency will phase in the requirement over 4 years just as it did with automobiles. 20 percent of the light trucks and other vehicles manufactured after September 1st, 1994, must be equipped with airbags; 50 percent in 1995, 90 percent the following year; and after that, 100 percent.

The new rule includes an incentive for manufacturers to install airbags rather than automatic belts. We encourage the installation of airbags. This is, perhaps, the most important step since side impact that we have taken.

Senator GORTON. General, what is that incentive?

Mr. CURRY. The incentive is initially when they start offering vehicles with a driver's side airbag, can initially start out with a manual safety belt on the passenger side, still be in compliance with the new safety standard through model year 1998.

This same incentive was offered to passenger cars when they came on line with airbags and seat belts. It worked very well. It encouraged the production of airbags. We think it will encourage the same in the light trucks and light vans.

We think that this is the most important step since side impact that we have taken to assure the same safety standards apply to light trucks and passenger cars.

Today, light trucks and vans are extremely popular, as has been pointed out by Senator Danforth, but safety belt use certainly remains the most important factor for occupant protection, and we need to always remember that we should wear safety belts along with airbags.

That is essentially the announcement. It is much more complete in its press release which will be put out here at the meeting, at the hearing, and then will be available for anyone else who should want it.

I have to digress to just say one other thing and that is, Senator Danforth, I have been asked, and encouraged strongly, by Senator Bryan and Senator Gorton throughout this process to make this happen, but clearly, you have been sort of the Godfather of this project, and I am very glad that we can today look at you and tell you that we have, in fact, been able to bring this through the process, and that it is being announced and officially published.

With those words, I would like to go a little bit into a few summary remarks, if I may.

I have with me two very distinguished colleagues that are here today. On my left I have Barry Felrice who, as you know, is in charge of rulemaking, and Don Bischoff, who is my new associate minister for plans and policy, who are with me at the table.

First, let me give you a quick update on some other safety activities that we are involved in that may be of interest to you.

On school bus safety, the agency issued two notices of proposed rulemaking last Friday. One is to improve the strength of a bus body joints, and the other is to improve emergency exits.

We are, by the way, also nearing the final rule for stop arms and a notice of proposed rulemaking on rear view mirrors.

This summer we are going to do something that may be, probably, the single most ambitious thing this agency has attempted. We are going to attempt, this summer, to move seat belt use in America from 49 percent up towards the President's goal of 70 percent by 1992.

I would like to see this calendar year for use to break over 60 percent. As you know, we have been stalled for the past 5 years around 47, 49 percent seat belt use nationwide. There is no reason for us to accept this. I believe that this is totally unacceptable. I think it is something that has to be modified.

I have been very shameless in the way we have approached this. We have simply gone to other countries and said, where is seat belt use really high? One of those countries where it is high, above 80 percent, is our neighbor to the north, our good neighbor of Canada.

We have met with them. We have talked about how they moved from 55 percent to over 80 percent. We find that Australia, as well as Great Britain, have also achieved those goals. So, what we really have done is taken their plan and modified it for the United States.

This summer you will see a very extensive plan, nationwide campaign to raise seat belt use. I will not bore you with all the details, this morning. We are giving you, with the testimony, a hand out that describes the program in some detail.

I am very happy in the future, should you have any inquiries, to answer your questions on that score.

Now, let's turn for just a minute to airbags and Federal motor vehicle safety standard, number 208, which requires automatic crash protection for the driver and right front passenger for all passenger cars after September 1, 1989.

I am very pleased with the direction we are going. I am very pleased that Chrysler has taken the lead, as you know, and as you have mentioned. The other automobile manufacturers, Ford and General Motors, of the United States manufacturers, have also been very supportive and have shared with us their product plans, some of them confidential, for the implementation of airbags.

Certainly companies like Mercedes Benz, Volvo, and others have been on board a long time.

This summer when I was in Japan and Korea talking with them, the question was asked, what incentive do we have to put airbags in cars? My answer is, the American consumer. The American consumers have decided that they want airbags, and I can promise you that in 5 years, if you do not have airbags in your cars, they are not going to sell in America because consumers will not buy them.

I think we have seen the renewed interest. The Japanese responded very quickly. Most of their manufacturers have announced plans to install airbags in their vehicles.

S. 591's implementation schedule, and the bill itself is not unreasonable. I support the direction that it is going. I am very positive toward the bill. I do not have great problems with this bill at all. I think it may lack some flexibility to change schedules, for example, which I think could be helpful to the manufacturers.

We at NHTSA are pleased with the bill's safety objective. We do believe, however, the current regulatory process is sound and that it has worked in the case of occupant protection, and that it will work in the future.

I would like to be certain that you gentlemen all understand that we do believe that this is a positive bill, a positive step in the right direction, even though we would prefer regulation by rulemaking than by congressional legislation.

That completes, sir, my comments and thank you for the opportunity.

[The statement follows:]

STATEMENT OF HON. JERRY RALPH CURRY, ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Mr. Chairman and Members of the Subcommittee.

Thank you for inviting me to appear before you today to discuss S. 591, a bill to require the installation of air bags in all new passenger cars and light trucks sold in the United States. With me at the witness table are Barry Felrice, our Associate Administrator for Rulemaking, and Donald Bischoff, our Associate Administrator for Plans and Policy.

First, let me give you a quick update on some other safety activities that may be of interest to you. On school bus safety, the agency issued two notices of proposed rulemaking last Friday. One is to improve the strength of bus body joints and the other to improve emergency exits. We are also nearing decision on a final rule for stop arms and a notice of proposed rulemaking on rearview mirrors.

Our light truck rulemaking is moving ahead on several fronts, with a final rule issued for automatic crash protection and final decisions being considered on final rules for roof crush resistance, side impact protection, and high-mounted stoplamps.

This summer we begin a nationwide safety belt campaign for this summer that will focus on the high-travel holidays of Memorial Day, Labor Day, and the Fourth of July. We have great hopes that a concentrated safety belt media campaign combined with aggressive enforcement of safety belt use laws will advance the President's goal of achieving 70 percent safety belt usage by 1992. With my testimony, I am submitting a summary of this campaign for your information. We will be reporting in greater detail on these safety objectives at our oversight hearing next month.

Now let's turn to air bags and Federal Motor Vehicle Safety Standard (FMVSS) No. 208, which requires automatic crash protection for the driver and right front passenger of all passenger cars manufactured after September 1, 1989. Although any form of automatic protection could satisfy the performance requirements of the standard, the standard contains a key option encouraging air bags rather than automatic belts. The standard allows manufacturers that install a driver air bag to retain a manual lap/shoulder belt for the right front passenger until September 1, 1993. This permits the manufacturers to focus their engineering efforts on the driver's seating position, where about 70 percent of all fatal occupant injuries occur. It also permits the manufacturers time to overcome the engineering difficulties of installing air bags for the passengers side, So that they can install air bags rather than automatic belts.

We are now seeing exactly the result we hoped for. There are more driver-side air bags being installed that; would have occurred otherwise.

Although Mercedes-Benz has had driver air bags as standard equipment since 1986, and other manufacturers have installed air bags in one or more lines, the decision by Chrysler to take advantage of the driver-side option and to install driver air bags as standard equipment in all its passenger cars has contributed significantly to the public awareness of the air bag and its benefits. The head-on crash of two Chrysler LeBarons in Virginia last year created favorable publicity nationwide. You were able to use those cars at your press conference announcing S. 591

The growing public awareness of air bags has led many manufacturers to adopt air bags in place of automatic belts or to accelerate their plans for installing air bags. Public statements by the manufacturers about their plans to install air bags indicate that approximately 90 percent of the passenger car fleet will be equipped with driver and passenger air bags by the mid-nineties. We would expect the remaining 10 percent to follow soon.

We believe that the success we have seen in passenger cars will soon be repeated with other light-duty vehicles. This week we issued a final rule extending the automatic crash protection requirements to trucks, multipurpose passenger vehicles and buses having a gross vehicle weight rating of 8,500 lbs. or less and an unloaded vehicle weight of 5,500 lbs. or less.

To permit the manufacturers time to incorporate automatic protection into the wide range of light trucks on the market, the standard adopts a phase-in schedule requiring each manufacturer to install

automatic protection in 20 percent of its light trucks in MY 1995, 50 percent in MY 1996, 90 percent in MY 1997, and its entire fleet in MY 1998. An alternative schedule, to address concerns of single-line manufacturers, allows a manufacturer to postpone any installation in MY 1995, and instead equip all of its light trucks with automatic protection in MY 1996.

We have adopted the same driver-side option for light trucks that has proven so successful in securing the installation of air bags in passenger cars. Light trucks with a driver-side air bag will be permitted to have a manual safety belt on the passenger side through MY 1998.

In response to consumer demand, some manufacturers have already begun installing air bags in light trucks. Chrysler, which already offers air bags in its minivans, has said it will be the first U.S. manufacturer to put air bags in sport utility vehicles when it offers them in its new Jeep ZJ next year. Ford is planning to equip all 1992 Aerostars and E-150/250 series Econoline vans with driver- side air bags.

The rulemaking option favoring air bags will thus reinforce a trend that has already become established, both because the buying public seems to favor air bags over automatic belts, and because widespread air bag installation in passenger cars has resolved many of the technical aspects of installation. Numerous challenges remain for specific light truck applications, to deal with such problems as sensors that can withstand the normal shocks of" off-road use, but It is clear that regulatory and market forces are moving very rapidly to ensure that air bags are installed as quickly as the technology will permit.

I want to close this discussion of the status of air bag installation stressing the limits as well as the benefits of air bags. The agency's estimates of restraint system effectiveness have always indicated that air bags in combination with lap/shoulder belts potentially offer the highest level of protection against fatality or serious injury compared with other restraint systems. At the same time, we have also stressed that air bags provide supplemental protection, primarily protecting occupants involved in frontal collisions but offering little protection in side or rear impacts or rollovers. For maximum safety. lap and shoulder belts should always be used in air bag-equipped cars.

S. 591 requires driver and passenger air bags in passenger cars in MY 1996, driver air bags in light trucks in MY 1997, and both driver and passenger air bags in light trucks in MY 1998

Based on available data, we believe that car manufacturers will provide full front air bag protection by MY 1996. However, plans have not been announced for all models of all lines to offer this protection. Current plans indicate that approximately 90 percent of the passenger car fleet will have full front air bag protection by MY 1996. The best case is that 100 percent air bag installation may come by MY 1996.

As for light trucks, the bill's MY 1997 date f&r driver-side air bags and allowed to continue to work. We therefore prefer regulation by rulemaking over regulation by Congressional enactment.

This concludes my prepared remarks. I will be glad to answer any questions you may have.

1991 NATIONAL CAMPAIGN TO INCREASE SAFETY BELT USAGE

BACKGROUND

Since 1980, our nationwide (19-city) estimate of safety belt use by front seat occupants has increased from 11 percent to 49 percent. Nearly all of this increase has followed the passage of safety belt usage laws, beginning in 1984.

However, progress has slowed in recent years. From 1984 to 1987, usage increased by about 28 percentage points but from 1987 to 1990, it increased by only 7 percentage points. This decline in progress is the result of at least two factors. First, there are now fewer new States enacting safety belt usage laws each year. Second, and most important, most of the States which have passed safety belt (or child seat) laws are not actively enforcing these laws and/or providing public information which specifically supports these efforts.

The trend in most States with safety belt laws has been an initial significant increase in belt usage, followed by a modest decline (in the absence of enforcement), and stabilization at rates of 40 to so percent. Public information and education programs, without accompanying enforcement, have been ineffective in changing these "post-law stabilization" rates.

ENFORCEMENT CAN MAKE & DIFFERENCE

We know that enforcement, coupled with public information, can make a difference. Projects conducted in New York (e.g. Elmira, Albany and Greece; Illinois (e.g. Danville, Galesburg and Rock Falls); and Texas (e.g. Beaumont, Brownsville, and Laredo) have demonstrated that gains of 10-30 percentage points can be achieved through highly publicized enforcement.

Furthermore, we know that "blitz" or "STEP" (Selective Traffic Enforcement Program) approaches are not the only approaches that will work. Integrated enforcement, which combines safety belt enforcement with other patrol activities, has been found to result in even greater and longer lasting gains in usage rates —when accompanied by supportive efforts to increase public awareness.

No Additional Resources Needed

Demonstration projects conducted in U.S. cities have indicated that integrated enforcement does not require additional resources by police agencies because it does not require an increase in patrol hours. Safety belt citations are written as part of ongoing patrol activity. These findings are important

since "integrated" enforcement can be conducted in secondary-law States as well as in primary-law States. Furthermore, these activities can be effective even in situations where resources have already been diminished.

THE CANADIAN EXPERIENCE

Successful safety belt campaigns in Canada have also emphasized the use of enforcement, combined with enhanced public awareness. During the early part of the past decade, the Canadian Provinces, like most of our States, had been suffering from "post-law stabilization." As a result, the Canadian national usage rate was only about 55 percent. Beginning in the mid-1980's, most of the larger Provinces initiated combined enforcement and public information efforts. As a result, these Provinces (e.g. British Columbia, Alberta, Saskatchewan, ontario and Quebec) dramatically increased their usage rates and the Canadian national usage rate is now above 80 percent.

The Saskatchewan experience is particularly significant. Average usage rates prior to 1986 had fluctuated around 55 percent for nearly a decade. Following this long period with little progress, programs which combined public information with enforcement were initiated. These efforts increased belt usage in Saskatchewan to its current level of more than 90 percent in just a few years. Both British Columbia and Quebec implemented similar programs and now have usage rates greater than 90 percent, as well.

The common elements of these programs are increased enforcement, highly visible public information, and press conferences. The public information programs and press events have two OBJECTIVES. (a) to make the public aware of the importance of wearing safety belts; and (b) to make the public aware of the fact that the police will be enforcing the law.

OUR CONCLUSIONS

Everything we have learned to date indicates that visible enforcement of existing laws offers our greatest potential for achieving our goal of 70 percent usage by 1992.

As a result of our experiences, we have also concluded that:

(1) "blitz enforcement often results in the most rapid increases in safety belt usage;

(2) techniques which "integrate" the enforcement of safety belt laws with the enforcement of other traffic safety laws may take slightly longer to increase belt usage but these techniques are more cost-effective than blitz approaches and they result in more sustained usage rates;

(3) public information efforts must be present to focus attention on enforcement; but

(4) public information, alone, will not increase usage.

A NEW NHTSA PROGRAM PLAN

It has become clear that if we are to reach our goal of 70 percent safety belt usage by 1992, we must take some dramatic steps. Therefore, a major national campaign will be conducted in 1991 and 1992. During this two-year effort, maximum emphasis will be placed on a combined public information and enforcement program centered around the three summer holidays —Memorial Day, Independence Day and Labor Day.

STATE AND LOCAL EFFORTS

The core activity of the national campaign will normally entail a 2- week safety belt and child seat enforcement effort surrounding each holiday. States without safety belt laws will be encouraged to enforce their child seat laws and to remind motorists to buckle up as part of their routine traffic stops and other contacts.

Prior notice and publicity about the enforcement effort is a must for public acceptance and program success. Therefore, one week before the enforcement effort begins, police (and/or other State and local officials) will be encouraged to conduct press conferences telling the public about the importance of wearing safety belts (and child seats) and warning them that enforcement will begin in the coming week.

In addition, for 2-3 weeks prior to these press conferences, participating States and localities will conduct public information programs that also point out the importance of safety belt (and child seat) use and the fact that enforcement will be emphasized throughout the summer, to reduce the holiday death toll.

Before Memorial Day, and after both the 4th of July and Labor Day, local jurisdictions will be encouraged to conduct simple, informal observation surveys to measure change in usage. They will also be encouraged to monitor and report the number of citations and warnings issued.

The purpose of the observational surveys is to provide information back to the police and to the local public regarding the success of their endeavors. This information also reinforces the concept that this is a non-punitive effort to safeguard the public's welfare.

We realize that not everyone across the nation will participate in exactly the same manner —but if we are specific in defining an overall program schedule, there is a much greater chance of that individual efforts will complement each other. Accordingly, we have targeted the following specific dates for the start of each of these:

NATIONAL SUPPORT FOR STATE AND LOCAL EFFORTS

NHTSA will conduct a number of activities to support and reinforce State and local efforts.

First, a series of major press events will be conducted during the "kick-off" week prior to Memorial Day (Buckle Up America Week); throughout the summer months; and during the September "wrap-up" (tentatively scheduled for Sept.ember 25).

These events will incorporate enforcement, medical, public health, and private sector organizations. Each event will be staged with a different theme. For example, one may be at a trauma center with a group of physicians; another may be staged at a roadside sobriety checkpoint; still another may be at a ma;or tourist attraction. Additional summer events will involve major 70% PLUS awards to organizations and jurisdictions achieving 70 percent belt usage.

To the extent Possible, these events will be staged in various locations across the U.S. The idea will be to create an awareness of these events taking place across the nation by staging the events in different locations. Additional national coverage will be generated by making the 70x92 campaign a constant theme in speeches and routine media interviews by senior Department and Agency officials.

Second, specific enforcement-related campaign materials will be developed and distributed to the States. These materials will include TV and radio PSAs, billboards and brochures, each of which relate to the ongoing campaign to increase belt usage.

Third, there will be-a general-awareness media and public relations campaign consisting Of. (1) new Vince and Larry TV and radio spots distributed in April 1991; (2) safety belt messages aired in rush-hour traffic reports and on "top 40" radio shows in major metropolitan markets; and (3) placement of safety belt messages in magazines and daily media.

Fourth, an effort will be undertaken to establish a national coalition to publicly endorse the national emphasis program —including the enforcement component.

As part of this national coalition, there will be an effort to mobilize grass roots support for State and local campaigns. This will include support for efforts that are part of the summer emphasis program as well as efforts to conduct occupant protection education and enforcement programs on a continuing basis.

Fifth, the results of the national 19-city survey will be featured in the kick-off and wrap-up events. These results will provide information to the public regarding the impact of the campaign from a national perspective.

INCREASING ENFORCEMENT

OPERATION BUCKLE DOWN

Several activities will be undertaken to increase enforcement itself. First, a new program entitled Operation Buckle Down" is being implemented to implement safety belt use and day-to-day safety belt enforcement in participating States. Police executives in these States are being contacted by designated spokes persons and encouraged to adopt a model safety belt enforcement program.

In each "Buckle Down" State, the police spokes persons will seek to gain the participation of the State police/highway patrol and of as many jurisdictions within the State as possible. They will be asked to conduct the coordinated public information, press conference and enforcement efforts during the three holiday periods.

After participation in the national campaign has been addressed, the police spokes persons will meet with police executives throughout the State to encourage them to implement the Model occupant Protection Enforcement Program developed by the International Association of Chiefs of Police (IACP).

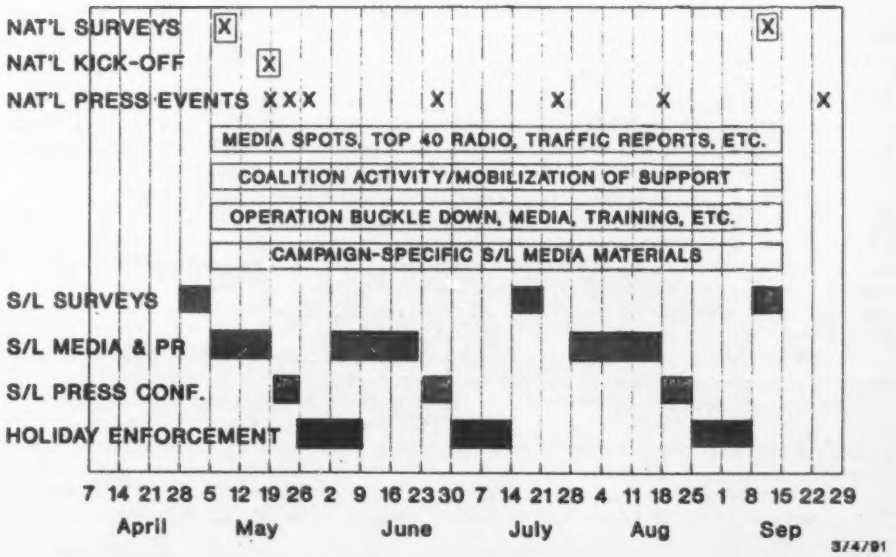
SPECIAL HOLIDAY OPERATIONS

Much of the success of the implementing the summer campaign rests O on the fact that most jurisdictions throughout the nation already conduct special enforcement operations during these holiday periods. As opposed to requesting the commitment of additional police resources (e.g. overtime) for these operations, we are asking that they emphasize safety belt (and child seat) use in both their enforcement and public information support components.

In addition, there are several nationally organized holiday efforts that can help support the campaign at the national, State and local levels. These include "Operation CARE" and "1-75 Alive." Representatives of NHTSA will work closely with the International Association of Chiefs of Police (IACP) and with the planners of national and regional special operations to obtain their participation in the national safety belt campaign.

It is important to emphasize that the success of the campaign does not require additional police man-hours or resources. Police officers can enforce their State's occupant protection laws as part of either normal or special holiday operations.

The success of the campaign does require that public and private-sector resources be directed toward public information programs and press conferences to support the enforcement of safety belt and child seat laws.



Senator BRYAN. General, thank you very much. The news of the new rule is a welcome one, one that all of us appreciate hearing.

Some have suggested to me this morning that maybe we ought to hold more hearings of the subcommittee then we will hear additional announcements of new rulemaking.

Mr. CURRY. Please do not do that.

Senator BRYAN. I would hope, from the standpoint of our own schedule, that is not a factor.

General, let me ask YOU. Do you agree with the statement that a number of the safety advocates will make this morning that nothing in terms of safety, in terms of occupant restraint is more effective than an airbag coupled with the use of the manual seat belt? Do you agree with that?

Mr. CURRY. Yes. We have been saying that for years. We believe that is the way to go.

Senator BRYAN. And if it is the way to go—and as Senator Danforth pointed out in his opening comments, whatever original hypothetical, theoretical doubts existed, certainly the experience of the past few years would indicate that all of the anecdotal evidence supports a scientific conclusion—what is the justification for not taking that extra step and doing what the legislation that we are proposing would do. That is, saying "Look, let us go to airbags. Let us not just talk about the automatic seat belt. Let us go to airbags and set a reasonable time frame, model year 1996, in our legislation.

What is the argument against that?

Mr. CURRY. I would hope that you are not expecting an argument from me. I will not give you one. I think that it is very clear to me that according to the product plans, the manufacturers are moving in that direction. At the end of 1994, no question about it, 90 percent will have airbags. I believe we will have the other 10 percent.

Senator BRYAN. But General, that would not be a great comfort to the 10 percent that do not.

Mr. CURRY. But I believe we will have the other ten percent within the time frame you specify in your bill. So, if you are looking to me to object to what you are doing, I do not object to what you are doing. I do not object for two reasons.

Number 1, I think the bill is positive. I think it is a direction, a step in the direction. Number 2, I think our current way of doing business with rulemaking is going to obtain the very same result about the same year that you do, and so I do not object in any way to what you are trying to do.

Senator BRYAN. General, we would like to have you say, rather than you do not object, that we support the legislation.

Mr. CURRY. Oh, I can even say I support the thrust of it.

Senator BRYAN. All right. We are getting close, we are getting close.

Mr. CURRY. Are we going to do rulemaking by legislation or by the regulatory process. I happen to be a Federal regulator, so I think the regulatory process works very well. I think we are both going to get to the same point at the same time. You just have no resistance in me. I do not fight this bill.

Senator BRYAN. Okay. You support the thrust of the legislation. Let me just pin you down a little bit more. Do you believe that, for 100 percent of the fleet in model year 1996, we will have airbags, both driver and passenger side?

Mr. CURRY. No, I think the year is not 1996. What is it, about 1998, Barry?

Mr. FELRICE. Well, for trucks it would be.

Senator BRYAN. We are talking about cars.

Mr. CURRY. Cars, 1996; trucks, 1998. But the answer is yes. I think we are going to be there. Yes, I do. I think we are going to be there with the current rulemaking.

Senator BRYAN. Now, you say with the current rulemaking. Are you contemplating a rule that goes beyond what you are presently requiring which, as you know, gives us an either/or?

Mr. CURRY. I do not at all see a rule needed. The manufacturers have personally told me and they are moving in that direction. I have no reason not to believe them. They have worked very well with me in the last 2 years. I really do not have an objection to what you are doing, Senator.

Senator BRYAN. I understand that, but I am trying to pin you down just a little bit to make sure. You are indicating that you have been told by the manufacturers that they will have both driver and passenger airbags—let us talk now just about cars—on all cars, for the model year 1996?

Mr. CURRY. I would rather defer to them. They are here, I think, today, the representatives, and I think that they could answer that question for themselves. I am sure that they would be happy to do that.

I am just saying to you that I am comfortable that we are going to get to the point that you want, and I think in the time that you will be pleased with.

Senator BRYAN. There is no question that the rule that you are announcing today moves us into an area that has not previously had a standard, and all of us have acknowledged that that is a significant step forward, but it seems to me, as we discussed, that we are talking about being a little bit pregnant, here.

Why not do what we all know is the most important and responsible thing that we can do in America to promote highway safety and simply say, look, let us require the airbags on both the driver and the passenger side, as Senator Gorton and Senator Danforth and I proposed, and let us not just talk about an either/or, an automatic seat belt or a driver airbag, option for the light vehicle fleet?

Why not require them to do what logically would seem to suggest that we ought to do in terms of promoting safety for the owners, drivers, and passengers of those kinds of vehicles?

Mr. CURRY. We do not disagree in substance. We only disagree in the method to get there. I believe that the current rulemaking process is one that has been tried and proven. It works very well. I think it results in a result that we have all seen over the years. That has been a good result.

I think we can trust it to accomplish what we want accomplished. If you feel, and evidently you do, that the rulemaking process is not good enough and you would like to legislate that we do it differently, I acquiesce.

Senator BRYAN. General, the point is that we are not just talking about an abstract rulemaking process. We are talking about saving lives, and you are the agency that is charged with doing that. If we agree, and I think we do, based upon your testimony, that nothing beats an airbag and the use of a seat belt, then it seems to me that there really is no basis not to say, look, as the administrator of the agency charged with that responsibility, I applaud Senator Danforth and Gorton and others and say, let us do it now.

You can certainly work faster, perhaps, than we can through the legislative process. How about a rule on your part that requires what we are talking about here, to require that all automobiles have both a passenger and a driver airbag by model year 1996?

Now, that would eliminate your objection to a legislative approach. You could do that, could you not?

Mr. CURRY. Well, if I were in the Gulf right now, I would come out of one of those bunkers waiving a white flag.

Senator BRYAN. No, no.

Mr. CURRY. I am trying to say to you very clearly, I think we are going to get what you want. I really do not believe the legislation is necessary, and I do not believe that a new rule is necessary.

But, you do believe it is necessary, and I do not take any objection to that. I do not oppose that. I am not sure what else I can say.

Fundamentally, I think a rule is not necessary. Fundamentally, I do not think the legislation is necessary. I do believe we are going to get exactly what you want with the current legislation, and I guess we are probably just not going to agree on that.

Senator BRYAN. General, the point is, though, your objection is that you would rather do it by rulemaking, and that is what you say, and I am not surprised that an administrator of an agency would take that position. You could achieve the same results that we seek to accomplish legislatively by promulgating a rule to require, in the same time frame for automobiles and for light vehicles, that which we seek to achieve legislatively.

And I must say that I am surprised that the objection is simply that you do not like a legislative mandate as opposed to a rule. You could eliminate that concern by simply doing this yourself and I give you that option.

Mr. CURRY. I think I have answered the question as clearly as I can, and I really do not want to just be disagreeable.

Senator BRYAN. All right. Let me yield to Senator Gorton for questions.

Senator GORTON. A follow-up to Senator Bryan's question on a slightly different level. I think when you went through your formal testimony earlier, while you stated that philosophy very clearly, you said that you had some technical problems with the bill, on the assumption that the bill was going to be passed.

Assuming that we are going to pass a bill—this bill or something very similar to it—what specific technical questions or criticisms do you have at this point?

Mr. CURRY. I do not think that I have any technical criticisms. I think there is some flexibility that could be built into it. Barry would be happy to talk to that.

Mr. FELRICE. Senator Gorton, I think one of those areas deals with the coverage of the rule. Not all light trucks or vans or pick-ups built by large manufacturers such as General Motors, or Ford, or Nissan. In our rule, for example, we exempted a small number of specialized vehicles, vehicles used by the U.S. Postal Service. We exempted a type of light truck called a walk-in van, these essentially like bread trucks that you see in urban streets.

Senator GORTON. Why?

Mr. FELRICE. Well, for the walk-in vans there was a practicality problem—a practicability problem. The steering columns in those vans are at a very high angle. It would be very difficult to put an airbag in there.

The use of those vehicles is such that the drivers really are not at as great a risk as a typical light truck occupant is, whose vehicles are used in urban traffic, in delivery stop and go. For the Postal Service they have and enforce a mandatory belt-usage law for their drivers, so the benefits to apply this technology to those vehicles would be rather minimal.

So for those reasons, there are these little minor, technical details that the law does not provide enough flexibility to consider.

Senator GORTON. Are you going to make specific suggestions to us along those lines?

Mr. CURRY. We would be pleased to make them, if you are welcoming them, yes, sir.

Senator GORTON. Well, I do not know whether I agree or not, but we should certainly see what you have to say, and the rationale for saying it.

Do you agree, General Curry, with the criticisms of the other passive restraints, and particularly to the ones which are attached to doors, that in fact whatever the rationale of creating them in the first place, they simply get disconnected; they do not save very many lives because people either totally take them off and disconnect them, or alternatively feel that they are fully protected and do not put on their lap belts?

Mr. CURRY. We do, as you know, or may not know, a 19-city survey, and we do that each year, twice a year really, and we actually have contractors who go out and actually measure and count the numbers of cars going by, the numbers of people wearing seat belts and all that sort of thing.

We have found about 21 percent of the detachable belts actually in use are detached and not used. The usage of those kinds of belts is certainly still much higher than the national average of about 49 percent, and if you would like some more specific details Barry could give them to you, but the belts in fact their actual use is quite high and quite good.

Senator GORTON. That use coupled with the use of the lap belt as well? I must say, the first time I got in a car with one of those automatic things on the door—as a matter of fact, the first five or six times I got in, it never occurred to me to put on the lap belt in addition, even though I am a 100 percent utilizer of seat belts. How common is that?

Mr. CURRY. I think that is so, and that is one of the reasons, I think, why we must have a successful campaign this summer to correct part of that problem.

Mr. FELRICE. You are right, Senator. We do not collect, in the 19-city survey that the Administrator mentioned data on lap belt usage. It is mainly shoulder belt usage, because it is easier to see, obviously.

The only study we have seen on lap belt usage, or just shoulder automatic belts, was by the University of North Carolina and it showed usage only at about the 30-percent level, so certainly not as many people as we would like are wearing lap belts. Shoulder belt usage is fairly high.

There are also some automatic belts, such as are in General Motors cars, that have an automatic lap belt, and that usage there is still higher by quite a bit than manual belt usage. So there are benefits to all the automatic belt systems.

Senator GORTON. What is the relative protection available from a properly used combination of a shoulder and a lap belt as against the airbag?

Mr. FELRICE. Well, we are in the process of evaluating real world accident data to get a factual answer to that question, but we estimated when we issued the first automatic occupant protection rule in 1984 that about 55 percent of all fatalities could be eliminated with usage of a manual lap and shoulder belt and an airbag, but you need the lap and shoulder belt to get up to that level.

The airbag alone, we estimated, would be about 20 to 40 percent effective in reducing fatalities. With an automatic belt, the top end of our range of effectiveness was slightly lower. We said effectiveness in eliminating fatalities would be in the 35 to 50 percent range.

So an airbag with a lap shoulder belt is the most effective, as we estimated 7 years ago. Belts alone are slightly less. The airbag alone without a belt may or may not be slightly less than a belt when used. We are not quite sure yet.

Senator GORTON. Do your surveys indicate to you—are you sophisticated enough to know whether, when people know that they have an airbag they have a lower utilization of belts?

Mr. CURRY. Let me add to that one, and that is that part of what we are doing in terms of the collection of real data is that we have not really had enough deployments of airbags right now to have a good database. The answer is, we have some thoughts about the answer to your question, but we really do not have a very good answer to that at this time, but we are trying very hard to get a handle on that sort of thing.

Senator GORTON. Well, I think that is my previous question. My second one was, do you have any information which indicates that people are less likely to use a seat belt if they know there is an airbag in front of them, or does that not affect seat belt use?

Mr. FELRICE. That was a fear we had that consumers might think that an airbag was a panacea and therefore they did not have to buckle up. The evidence we have, again, is not statistically significant or factual, but anecdotal data says there does not seem to be any degradation in belt usage in cars with airbags.

Senator GORTON. Thank you.

Mr. CURRY. But we are going to really have to take a little more time, a few more years, before we can really give you a good answer to that.

Senator BRYAN. Let me now defer to Senator Danforth for questions.

Senator DANFORTH. General, first of all with respect to statute or regulation, I recall that a number of years ago we introduced a bill to provide for the high-mounted rear stop- lights in cars, and the idea was to get it done, and it turned out that after we introduced the bill DOT did it by rule, and that was fine with me. The point is to get it done, whether it is by rule or statute.

I think that the form of our bill is a little better than the rule, but I do think that what you have accomplished has been the most significant safety development for light trucks and vans ever, and I think it is important to stress the positive, and as I say, whether it is done by statute or by rule to me is immaterial in this case.

I mean, there are cases—for example, the drug testing issue, where it is such a volatile issue and such a political quagmire, that it seems to me Congress better speak and not have a situation where one administration or another is fussing around with it.

Let me just ask you this, though, because Senator Bryan said well, why do you not simply do it yourself, and my impression is that the process of a rulemaking—witness the side impact protection rulemaking—is not necessarily a simple matter. I mean, it is not a matter of the Administrator waking up in the morning, popping out of bed, and cranking out a safety rule.

Mr. CURRY. I wish it were.

Senator DANFORTH. And that even in the most collegial and smoothest-running of administrations—and I concede that you are a part of the most collegial and smoothest-running of administrations, but even under these circumstances, it is sometimes a little bit difficult to clear all of the various hurdles on the way to getting something done. I think OMB gets into the act somehow, and you have to deal with people like White House types in order to get rules cranked out.

I do not want this to be an airing of what may or may not be. Maybe there is total agreement, for all I know, within the administration, but I know that from the days of Elizabeth Dole and dealing with airbags, there was a considerable amount of give-and-take that took place within the administration.

I thought that while her notion was not the greatest thing going, it was a tremendous development. She had been told by her predecessor, Drew Lewis, forget it on airbags. No way is the Reagan administration ever going to agree to anything on airbags. Well, they did, because of her perseverance.

I do not want you to go on into all the details of what goes on in the administration, but is it fair to say that Jerry Curry is not the sole player in the act with respect to determining what regulations go out and what regulations do not go out?

Mr. CURRY. Senator, that is a very astute observation.

Senator DANFORTH. Could it be that on a hypothetical rulemaking there may be people within the administration who might take the view that a certain form of the rulemaking is perhaps more rigid and more onerous than it might be in another form, and that therefore there would be a little bit of give-and-take that would be necessary to get the job done? I am not necessarily talking about this particular issue, but as a general rule, could it be that there is that kind of give-and-take?

Mr. CURRY. We have quite a bit of give-and-take, and as you know, that is the good part of Government. We need some checks and balances.

Senator DANFORTH. And everybody is more or less—well, maybe not happy, but by the end of the process there is some kind of product that comes out of it.

You view your role in this undertaking as being an advocate for safety, trying to do the best you can within the administration to get good, strong safety rules out.

Mr. CURRY. Within the system. You know, you work as hard as you can. You try to get things through in a way that is meaningful, usable, and I must go on record as telling you the administration has been very supportive of me in the process.

It is not an easy process. It should not be. Federal rules, I think, are very, very important. They affect the entire Nation and everybody in it. There should be checks and balances. People like me do have to be prodded, sometimes reined in, sometimes massaged, some of the rough edges taken off.

I think the system is a good system. I like it very much.

Senator DANFORTH. I imagine that in a time of widely-known problems within the auto industry, that there are people who say, with respect to any proposal for regulations, wait a second. I mean, should we be going this quickly? Do you find that at all? Are there people around who raise the issue that this industry is in bad shape, and maybe we should be going slower in regulation?

Mr. CURRY. Maybe I am probably the most fortunate Administrator in the administration, but I have been given a very free hand by Secretary Skinner to do what I believe is right. Clearly, when you read the newspapers, clearly watch television, and when I talk to automobile manufacturers, there is no question the auto industry is in very serious trouble today economically, and it is probably a level of difficulty that has not been experienced, perhaps, since 1980-81, in that time period, and certainly I pay attention to that.

For example, as I look at the implementation, the number of years that we will use to implement a rule, I look at that as sometimes wanting to shorten the implementation period. In fact, I wanted to do it on the light truck rule, but it was very clear to me that there is a lot of engineering involved, a lot of changes to automobiles involved—and light vans—involved in this, and that the system that Elizabeth Dole used in 1984, a 4-year phase-in, worked very well.

So I was the one who said, you know, maybe we ought to stick with that rather than a more ambitious phase-in that personally I would have approved, and I did that primarily because of some of the things you have mentioned and the softness of the industry and the jobs involved, and all of those things that must be considered.

Senator DANFORTH. It is true that politics is the art of the possible, and the business of regulating the relationship between regulation and the rest of what goes on in the country, really, is the art of the possible.

Mr. CURRY. Yes. I think that is part of why the side impact took so long. All of those things were a player, and part of—for example, I would have probably had a different kind of side impact regulation than came out last fall.

I would probably have had a little different kind, if I had not had some of the constraints. But after 12, 13 years of effort, I felt it was much more important to get that rule out to save the lives than to allow it to continue to be bogged down in political and, in some cases, scientific considerations.

Senator DANFORTH. General, thank you very much, and again, congratulations.

Mr. CURRY. Thank you, sir.

Senator BRYAN. Thank you very much, Senator Danforth. Thank you very much for your testimony, General Curry. The subcommittee wants to be helpful, and if that administrative process gets a bit too cumbersome, we do have an alternative for you to consider. With that free hand that you have been given by the administration and being the one responsible for safety advocacy, if we can just move you, we have no opposition to the bill, and we appreciate that.

You support the primary thrust. If we could just get you to move and say, this is the legislation that will make automobiles in America the safest that we possibly can. That is the next step, and we thank you very much.

Senator DANFORTH. Thank you, Mr. Chairman.

Senator BRYAN. Our first full panel this morning will consist of Mr. William Hines, and Mr. Michael Hines, Jr., of Newport News, Virginia, a father and son who owe their very appearance and lives to the circumstances in which their automobile, on two separate occasions, was equipped with an airbag; Ms. Joan Claybrook, the president of Public Citizen; and a long-time safety advocate, Mr. Clarence Ditlow, director, Center for Auto Safety, likewise a long-time safety

advocate; and Mr. Benjamin Kelly, president of the Institute for Injury Reduction, with a similar distinguished background on safety issues.

Ladies and gentlemen, let me welcome you to the panel this morning. We are delighted to have you with us. Let us hear, if we can, from the father and son team. I will defer to Mr. Hines, Sr., first. If he wants Mr. Hines, Jr., to go first, I will let that be a father and son decision. We are delighted to have you here this morning. Much of what we talk about in the Congress is pretty theoretical and pretty abstract. You really give substance to what we are talking about by your own personal experiences, and we appreciate both of you being here, Mr. Hines. Let me defer to you, sir.

Mr. WILLIAM HINES. Thank you, Mr. Chairman. We will do this in chronological sequence. My son will speak first since his accident occurred first.

STATEMENT OF MICHAEL HINES, NEWPORT NEWS, VA

Mr. MICHAEL HINES. Mr. Chairman and members of the subcommittee, thank you for letting me speak to you today. My name is Michael Hines. I am a senior at Menchville High School in Newport News, Virginia.

In June of last year my mother, me, and my sister were traveling near my home in our family's 1990 Cadillac. I was being extra careful, especially since my mother and sister were in the car. We were all wearing our seat belts. Unfortunately, not everyone on the road was being careful that day. Another car pulled out in front of me and suddenly made a left turn. I did not have time to avoid the collision, and I hit that car broadside, and the airbag deployed.

I remember feeling the airbag cushion me and keeping me from hitting the steering wheel. The first thing I did was to make sure my mother and sister were all right, and they were. And we all walked away from the crash with no injuries. I know the airbag kept me from having any injuries at all. I though my dad would be mad at me for wrecking the car, but he was just thankful that we were all okay.

I will be starting Morehouse College in Atlanta, Georgia, in September, and I plan to study mass communications or audio engineering. One of the reason I will be there is because of the airbag, and I wish every American could have the same protection that I did.

Thank you very much.

Senator BRYAN. Thank you very much, Mr. Hines, Jr. We appreciate your being here today. I am sure any father would be happy that his son escaped serious injury, but if he ever thought to exercise some admonition as if it could not happen to him, lightening struck twice in the Hines family, did it not, Mr. Hines, Sr. Let me defer to you for your comments.

STATEMENT OF WILLIAM A. HINES, JR., NEWPORT NEWS, VA

Mr. WILLIAM HINES. Thank you, Mr. Chairman. Mr. Chairman and members of the subcommittee, it is indeed a privilege for me to be here today. My name is William A. Hines, Jr. I am a retired Lt. Col. from the U.S. Army. I am presently working as a business consultant with a local firm in Newport News, VA.

In my line of work I spend approximately 10 to 20 hours per week in my car, presently driving anywhere from 300 to 600 miles. Obviously, I know the importance of safe driving, but it really was not until Michael's crash that I really realized how important safety features that are built into a car can be. I guess when someone in your own family is saved from serious injury or possibly worse, death, you really begin to take notice.

After Michael's crash, our car was repaired. The 1990 Cadillac was repaired, and my biggest concern was that the airbag would be replaced and, if ever needed

again, would function properly. Little did I know that approximately 6 months later, in January of this year, again, Michael and I were driving in Williamsburg on a major highway, and I was traveling approximately 45 to 50 miles an hour. Another vehicle came out from a side street directly into the main highway. There was no time to brake. I hit the car running, I estimate, between 45 and 50 miles an hour.

Obviously, in an accident of that nature things happen really fast. I remember seeing the vehicle and I remember hearing the crash. The next thing I really remembered was looking in my lap and there was the airbag. Obviously, the airbag did deploy again. I thank God for that, and it worked properly. Michael and I both were wearing our seat belts, as we always do. We walked away from that crash with, I call, minor injuries when you consider the impact of the car. I had some scratches on my arm, but no serious injuries.

Last week Michael and I were inducted into the Saved by the Airbag Club run nationally by the Advocates for Highway and Auto Safety and, in our State, by the Virginia Department of Motor Vehicles. I understand that we are the first father and son team to be members of that club. I am not sure if I consider that really an honor, because I really wish that we had not been eligible to be in such a club; however, I am extremely happy that that airbag was there when we both needed it.

I tell people everywhere I go about the crash and about how the airbag saved us. The bill that you are considering can make sure that all Americans have the same protection that Michael and I did. I would like to see airbags in all cars on both the passenger and driver side, and I am convinced that we would have far fewer highway deaths and injuries if all cars had them.

I thank all of you very much for the opportunity to be here and, again, I say both of us are extremely happy that we are able to be here today to talk to you about this.

Senator GORTON. Mr. Hines, how is the Cadillac doing?

Mr. WILLIAM HINES. Believe it or not, I just picked the Cadillac up yesterday and we drove it to Washington. So it now has its third airbag. We do not want to use it again.

Senator BRYAN. It does not sound as if you are interested in making history as being an owner of an automobile that had had the airbag deploy on three different occasions, Mr. Hines.

Mr. WILLIAM HINES. No, sir.

Senator BRYAN. We hope not either. Thank you both for being here. If you can wait with us, perhaps the panel will ask you some questions afterwards.

We are going to move now to Ms. Claybrook. It must be music to your ears after your years of involvement in this.

STATEMENT OF JOAN CLAYBROOK, PRESIDENT, PUBLIC CITIZEN

Ms. CLAYBROOK. It certainly, Mr. Chairman. It really is music to my ears. It has been a long battle, and one that I love to see as an outcome.

I would like to testify to day in favor of your legislation. It really is an important piece of legislation. I guess that the first comment that I would make, bouncing off of General Curry, is that in the 4 years that I served as administrator of the National Highway Traffic Safety Administration product plans changed about 14 times in those years. The manufacturers would have one plan, and 6 months later or 3 months later would change their plans. And while it is all very good and well to say today their plans are to do this, the fact is that they are constantly changing them, and for good reason. They are adjusting to the

marketplace; they are adjusting to their economic pressures; and they are adjusting to technology issues.

It seems to me that safety is one plan that should not change, and your bill would make that the case. So the most compelling and important reason for its enactment is not to rely on product plans, but to rely on the rule of law and, in this case, one that will save many thousands of lives. I think that is the key reason for its enactment. I, too, would be delighted if this was done by rulemaking; that is no problem to me at all. But I think one or the other should be the case, and it does not look like it is going to be done by rulemaking, so I hope that you will move this bill very speedily and, lo and behold, maybe we will have a rulemaking at the last moment.

The estimate, as you know, for the number of lives to be saved by airbags is 6,000 to 9,000 lives when installed in all vehicles. Recently, the Department of Transportation has done some real world analysis, which Mr. Kelly is going to describe in more detail. But essentially, it endorses these estimates which were made 15 years ago.

I would like to just mention quickly seven reasons in addition to the product plan one for supporting your legislation. First, because airbags are superior to any other system, while the analysis done in 1984 during the Dole rulemaking suggested that passive belts were as good as airbags. I do not believe that. None of the scientific evidence supports that, in my view.

The higher-speed crashes, where belts really cannot serve the same purpose, and head injury are the two major distinctions between airbags and belts and, for that reason, we should have the airbags, because they are superior. We also are having—some companies are lagging behind, so it is important to have anybody be able to buy an airbag without distinctions based on income levels and economics of your family.

Secondly, the existing, as you know, permits either belts or bags, and the belts—particularly the automatic belts—have been shown to be less effective, particularly the ones where the belt is hooked to the door.

Third, as Lee Iacocca knows, it is far cheaper to have one restraint system installed in all cars that it is to have two different ones. And if there is good competition in the marketplace you are going to have those savings passed on to consumers, and so the cost is going to be reduced for consumers.

Fourth, we believe that there will be also societal savings, savings for unemployment insurance, social security, welfare, medical care, police services, and so on, that will be passed on. William Nordhaus, in 1983, estimate the societal savings would be $33 billion if airbags were in all cars on the highway.

My fifth reason is that when you have a legal mandate you are going to have a greater effort made by the people who are involved in technology development. There is always a need for enhancement of this magnificent technology. In the past 25 years it has been a stop-start, up and down the hill process, which is very destructive for suppliers, and very costly. As we know, some of the suppliers have had to drop out of the marketplace during this period of time because of the stop and start actions that occurred. So I think to have the issue resolved would be very important.

In addition, my sixth reason is that this airbag technology should not just be limited to frontal crashes. It can work in side-impact crashes as well, a very, very important head injury protection for side-impact crashes. This needs to be developed. I think a legal mandate would be a sign and a signal and an encouragement to supplies to go and do that development work. There is some already under way by Volvo, but I think that we want to encourage that as much as possible.

And finally, Mr. Chairman, your interest in automotive fuel efficiency is relevant here. When Secretary of Transportation Brock Adams issued the passive restraint rule in 1977, he did it simultaneously with the fuel efficiency standards at that time. Our reasons were that the airbag compensated for any small degradation in safety that might occur for more fuel-efficient vehicles. The same still holds today that this is a very forgiving technology, a very forgiving system. It really can make the difference.

The research safety vehicle developed by the Department of Transportation in the 1970's using 1970's technology called the RSV, the research safety vehicle developed by many cars has a 2,500-pound vehicle that gets 40-mile per gallon fuel efficiency with certain engines and crashes safe at 50 miles an hour. And there is no vehicle on the road today that has that capacity. It has that capacity because of its advanced airbags. So you can achieve superior fuel efficiency and also safety at the same time.

Mr. Chairman, I am not going to go through my entire statement, but I would like to just mention that there are some lessons that we have learned out of this rule, and I would just like to mention them very briefly during this long and tortured history.

The first is that when these kinds of technology-forcing standards are developed there is a really strong need to have some industry support for it, and I think that the biggest problem with the airbag was that while there was some industry support at various points in time, there was no consistent industry support. General Motors was initially—Ford was initially a supporter, then changed its mind; then General Motors was a supporter, then changed its mind. There was a period when there were no industry supporters. Then Mercedes came out and supported it. I think that one of the lessons learned in this kind of very technical and difficult rulemaking is that you need to develop industry support as a part of the rulemaking process.

The second is that the Government, once it makes a considered decision, should stick with it. And clearly, the ups and downs in the rulemaking on this issue hurt the supplier industry very badly.

The third is that education and media and publicity can play an important role and, indeed, it has in this case. But it is important always to remember the real purpose of that publicity is to spark activity from a reticent industry.

Fourth, Government procurement and product liability law have played an important role. The GSA order for 5,000 air-bag-equipped cars from Ford in 1985 was a real incentive for that company to put some extra money into that technology. The excuse used by the industry for years that they would have product liability problems if they put airbags in, we think was resolved by an effort to sue companies for refusal to put in what was the state of the art, and it changed their mind on that issue and, indeed, they stopped using that excuse.

Fifth, I think that Congress has played a very critical role here, and should in the future, as well, to extract information—to bring corporate executives who are reticent about undertaking these kinds of standards to testify and explain publicly why, and to support insiders in the industry and also inside the Government agencies who are struggling to put these politically difficult proposals on the table.

Finally, I think that it is unavoidable not to talk about the ethics of leadership inside our industries. I think that Congress can help highlight this issue. It is criminal, really, that this wonderful technological vaccine was withheld from the marketplace for 16 years. You made an estimate this morning that was almost 200,000 lives lost as a result of that.

We have to ask ourselves, how is it that a Nation that has such technology capability and has a real respect for the sanctity of life allow this to occur? I do think it is worth a reflection on those questions as we look at this airbag saga.

In summary, Mr. Chairman, I hope that you will move rapidly on your legislation, and I appreciate the opportunity to testify.

[The statement follows:]

STATEMENT OF JOAN CLAYBROOK, PRESIDENT, PUBLIC CITIZEN

Mr. Chairman, members of the Committee, thank you for the opportunity to testify today on S. 591, the Highway Fatality and Injury Reduction Act, which would require the installation of air bag occupant restraints in all cars, vans and light trucks between September 1, 1995 and 1997 for both driver and front right seat outboard seating positions. My name is Joan Claybrook, and I am President of Public Citizen, a national public interest advocacy organization with 100,000 members nationwide. I am also the former Administrator of the NHTSA in the DOT. I am here representing Advocates for Highway and Auto Safety, a coalition of insurers and citizen groups which I co-chair, and Public Citizen.

The Highway Fatality and Injury Reduction Act signals a new day in the recognition of the powerful public health benefit of designed-in motor vehicle crashworthiness. After 20 years of debate about air bags, there is finally broad recognition and acknowledgement in the automotive industry, the government, and among the public that this influential motor vehicle crashworthiness system will save thousands of lives every year—6,000 to 9,000 lives when installed on all vehicles, with 200,000 injuries mitigated. Recent analysis in the bowels of the NHTSA of real world data from air bag equipped vehicles on the highway fully endorse these estimates that were first calculated about 15 years ago.

PUBLIC CITIZEN ENTHUSIASTICALLY ENDORSES S. 591 FOR SEVEN REASONS.

1. The incredible life saving benefits of air bags would be available to all car buyers—not just those who could afford the higher priced cars in which most air bags are now being installed. Although the U.S. car industry has been most actively resistent to air bags until very recently, it is the Japanese car makers who are now lagging behind and not offering air bags in most of their vehicles. In 1991 models, about 30 percent of new cars are being equipped with air bags. By 1995, the NHTSA estimates about 90 percent of new passenger cars will be so equipped. With the final safety standard for light trucks and vans just being issued today, plans for these vehicles remain unclear. However, air bags are now being installed in some of these vehicles voluntarily. With these plans already underway for most new vehicle production, S. 591 will not be onerous, but it would assure every car, van and light truck buyer the best available safety protection.

2. Although the existing motor vehicle safety standard 208 for automatic crash protection permits installation of either air bags or automatic belts, in fact air bags are the superior technology. First, they are superior because they protect at higher speeds and against bead injury in ways not feasible for belt systems. Additionally, they are completely automatic, while many so-called automatic belts are detachable and operate just like manual belts—in fact, the user is encouraged to detach the belt because it is so difficult to enter and exit the vehicle when the automatic belt is connected (we believe these systems are actually not in compliance with Std. 208). In addition, recent evidence is piling up on the dangers of the automatic belt when the door opens during the course of a crash. In these circumstances, which are not infrequent, the automatic belt attached to the door system becomes almost useless.

3. As Lee Iacocca knows, it is far cheaper for the manufacturer to install one restraint system, such as air bags, in a company's total production, than to split production between two different restraint systems. With competition in the market, some of these savings generally will be passed onto consumers.

4. In addition to the protection against heartbreak and trauma afforded by air bags, there will be enormous societal savings. In 1983, William Nordhaus of Yale University estimated societal savings of at least $33 billion from full scale use of air bags. These savings affect costs to the federal, state and local governments, medical care, police, welfare and unemployment and social security and more.

5. A legal mandate upon which industry can rely for installation of a particular technology in all new light vehicles encourages research investment in the technology, causes the technology to be upgraded and improved because there is an assured market for the system, and creates competition in the marketplace. One of the greatest problems facing the air bag suppliers over the past 25 years has been the stop/start decisionmaking occasioned by heavy industry lobbying and political changes. In addition, auto companies, their customers, were resisting any real commitments to the system but were placing orders for the immediate future just in case the safety standard actually became effective. As a result of these ups and downs in the marketplace, a number of suppliers lost money and dropped out of the business, giving the manufacturers another excuse for delay, and increasing the price. The few glitches we are seeing in the designs today will disappear rapidly, and the technology will also

be perfected as volume grows. While it certainly appears that air bags are here to stay, a legal requirement adds confidence and investment in this market.

6. In addition to perfection of the air bag technology for the existing frontal crash safety standard (#208)—the mode of crash in which 50 percent of the fatalities occur—a legal requirement will encourage suppliers to test the technology to provide protection in other modes of crash—particularly side impact crashes. This is critically important, because although the new side impact standard requires a dynamic test, it does not cover head impact protection. With the broad public and scientific acceptance of air bags that this legislation reflects, and the great flexibility this unique safety system offers, it is natural that some innovative suppliers/manufacturers will have the incentive and ingenuity to further develop the technology to protect against head injury in side impacts crashes. (Volvo is working in this area.)

7. Finally, with the environmental and political imperative to increase automotive fuel efficiency, the air bag technology offers great safety protection to compensate for any small reductions in size and weight. The air bag is an incredibly forgiving system as demonstrated by the Research Safety Vehicle developed by the NHTSA in the 1970's. The Minicars RSV weighs 2500 pounds, can achieve up to 40 mpg fuel efficiency (depending on the engine), and with its advanced air bag system, protects its occupants against injuries in crashes up to at least 50 mph. No safety belt system has been shown to provide this level of protection. And no car on the road today has these combined attributes of a truly socially responsible car. Unfortunately, under pressure from Detroit, the NHTSA abandoned this statutorily mandated program in 1981, and has ignored the unique technological advances demonstrated by the RSV which manufacturers still are not fully utilizing in their production vehicles. But fuel efficiency legislation and S. 591 will push manufacturers' to look at the whole vehicle and its overall performance.

Mr. Chairman, S. 591 is in many ways the concluding chapter in the remarkable saga of a technological vaccine that was suppressed and ridiculed but is so scientifically powerful that it overcame determined political and industrial opposition to emerge a public health hero. It is the story of bow an industry subject to regulation for failure and refusal to adequately protect the motoring public actually regulated the public marketplace by refusing to manufacture and sell this life saving device for at least 16 years.

The consequences are enormous. With auto crashes the largest killer of Americans under age 44, the largest cause of paraplegia and quadriplegia as well as epilepsy, with 120 people dying every day on the highway in America, it is unconscionable that the air bag was withheld from the marketplace and the political system was manipulated to undermine the NHTSA's regulatory force. Roughly 80,000 Americans have or will die in cars without air bags as a result.

How is it that this nation, with the greatest technological know-how in the history of the world and a deeply imbedded respect for the sanctity of life, tolerated this brutal maiming of its youth when the remedy was available to mitigate the slaughter?

We acknowledge that technology-forcing regulations, unlike simpler government requirement~5, are difficult to sustain in the face of determined industry opposition Inside the industry itself, there are of course many advocates of air bags and other safety designs that still have not been installed in production vehicles. But in the tightly controlled world of these massive auto companies, neither the Scientific nor the management executives are willing to fight for installation of safety designs against the finance men who run the companies. They have seen the fate of predecessors who have tried.

So while the scientists and engineers in Detroit Prevailed technologically to perfect the air bag, the chief executives and legal counsel Prevailed Politically to defeat it. For two decades, the air bag technology was resisted and overridden by corporate managers who apparently place a greater priority on demonstrating that the government can't tell them what to do than on the lives of their customers.

What kind of moral and ethical leadership does this illustrate? Is this the best we can expect from the lawyers who represent these companies and the finance and engineering experts who manage them? How does it make sense for an industry to create Products that directly result in the death of over 30,000 occupants each year, and the disabling of hundreds of thousands more each year, while their leaders resist cost-effective technology designs that could cut this number in half? least you doubt my characterization of the history of delay and obfuscation, hear the words of the Warren Burger Supreme Court in 1983, which found that "for nearly a decade, the automobile industry waged the regulatory equivalent of war against the air bag and lost—the inflatable restraint was proven sufficiently effective."

What tactics did the industry employ to postpone the air bag, and what lessons have we learned as a result of this tragic delay?

First and foremost, various companies (first Ford, then GM) attacked the technology, alleged it was dangerous, and secondly, whenever an economic downturn loomed, they argued economic burden. In the same way that GM tried to defeat the shoulder belt standard and Ford mocked the interior padding standard in 1966, these companies variously claimed noise dangers (while loud, the air inflation cannot be heard during the crash because of louder crash noise); the inadequacy of the surrogate test instrument (it was improved and GM eventually developed an alternative); sodium azide inflation chemical dangers and environmental hazards in disposal (the chemical becomes air when the air bag is inflated, which is why the companies—not under any government requirement—opted to use it); and dangers to out-of-position children (resolved with proper design and more recently

with 85% use of child restraints). Cost was regularly used as an excuse, even though GM marketing surveys of customers showed 70% would buy an air bag system costing up to $300 (1970's economics).

The main goal of these rationalizations was delay, a year here, a few years there, if the decisionmaker favored air bags, and outright revocation if not. Appeals for delay (to improve the technology or lower costs) were made in every imaginable forum-all levels of the Department of Transportation, the White House, the Congress, the courts, the technical societies, and the media. And they were successful—in the Nixon, Ford and Carter administrations. Ronald Reagan gave the manufacturers revocation, but so incompetently that the Supreme Court overruled him 9 to 0, and the safety standard was reissued.

Finally, a few observations about the lessons learned. For difficult standards that are technology forcing, it is critical to have support from some elements of the industry. Competition can play a Positive role, as we have all seen when Lee Iacocca converted to an air bag advocate. Until 1983, however, only the suppliers would stake out a positive position, and very cautiously to avoid irritating their automotive customers. When GM voluntarily offered 10,000 air bag equipped cars for sale in 1974 (with no advertising, however), it could have been a breakthrough, except that its enthusiastic President Ed Cole retired and the company decided in the economic downturn to jettison what was internally characterized as his pet project. When Mercedes offered air bags in 1983, however, it was with a long-term intent, and this decision finally ended all the silly technological arguments.

Second, the government should make a thorough and considered decision and stick with it. Changing a regulatory decision hurts and discourages suppliers, hinders technology development, wastes resources, and encourages agitation by opposing companies. But an important element in achieving this goal for controversial regulations must be developing political support at the White House, in Congress, and among consumer and Professional organizations. Although the air bag should not have been a political football, the auto companies successfully made it one.

The Congress can and should play a larger role here, conducting intensive oversight hearings requiring testimony from top corporate officials, unlocking the secrets in the government files, giving vent to the views of technology experts, exploring the imposition of a heavy hand from the White House political crew, and more.

Third, education of the media and publicity play an amazing role in taming giant corporations. Critical publicity, as we learned with "Unsafe at Any Speed," causes sparks and positive action, even in the bowels of GM. Auto safety advocates have learned this lesson and must continue to forge public debates over industrial obstacles to adoption of public health and safety policies. The auto industry has been hurt by its opposition to air bags because the average citizen rightly sees it as irrational. With the enormous payoff increasing year after year as more and more air bags are installed in new cars, the public will become even more cynical about past industry opposition. Perhaps companies other than Chrysler will reevaluate their posture now that the debate over air bags is finished, recognizing now that safety will always be a public issue.

Fourth, government procurement and product liability litigation can also supplement the regulatory role. The GSA purchase of 5000 Ford air bag equipped vehicles in 1985 (sparked by Ralph Nader) was an important spur to Ford's revitalized program. And in response to repeated arguments from auto companies about the liability of air bags, an organized effort to encourage suits against manufacturers who refused to install this state of the art technology not only ended that discussion but forecast a future financial burden for continued refusal to sell the technology.

Fifth, the Congress must take a hard look at the allocation of resources to agencies such as NHTSA, and how they are spent, because this 'agency is starving for resources to develop key biomechanical research and various test devices as well as for data development to help it target injury reduction proposals. It is one of the most underfunded agencies in the government compared to its mission, and this lack of resources makes it a sitting duck for industry opposition to its programs, including the air bag. NHTSA's entire administrative and contract budget is less than $100 million, about one fifth of one Stealth bomber and less than the military marching bands.

Finally, there is the unavoidable issue of the responsibility of leaders who have the power to alter the course of events. Corporate America and government officials who wield the power to make wholesale life and death decisions are immune from any personal responsibility for results that are far larger and more obnoxious than the retail crimes of street criminals. While immunity and limits on liability serve a role, perhaps it is time to ask whether greater personal liability on the part of these top officials in government and industry would have changed the history of the air bag.

Thank you for the opportunity to testify on S. 591, which we endorse wholeheartedly.

Senator BRYAN. Mr. Kelly, Ms. Claybrook gave you a nice little lead-in.

STATEMENT OF BENJAMIN KELLEY, PRESIDENT, INSTITUTE FOR INJURY REDUCTION, UPPER MARLBORO, MD

Mr. KELLEY. Thank you, Mr. Chairman, Senator Gorton.

For too long it seemed that airbags were doomed never to see the light of day. Now, happily, it can be said with confidence that airbags are here, that they are a reality, and that their market share is growing.

What cannot be said yet is that airbags are here for every new car buyer or that they are here to stay. That is why the aims of your bill are so important and so commendable.

To continue withholding airbag protection from those who cannot afford it as a high priced option, or those to whom a manufacturer chooses not to sell it, would be as contrary to sound public health policy as limiting pasteurization, polio vaccine, or any other disease prevention technology to only part of the population.

Let us not forget, also, that the manufacturer who gives may later take away. Under FMVSS 208 today, a car company is free to offer airbags to its customers, but also free to withdraw that offer at anytime, such as when it loses interest in safety, as history shows that car companies often do.

Commendably, your bill would eliminate manufacturer whim as a future determinant of who shall have or not have airbag protection, and when.

The need for your bill is emphatically underscored by data recent developed within NHTSA. Those data show that if all passenger cars in operation were equipped with front seat driver and right passenger airbags, more than 5300 lives would be saved each year, and more than 63,500 injuries prevented.

Were multi-purpose vehicles equipped with airbags in addition, the annual total of lives saved and injuries prevented could be a third greater or about 7,000 lives a year and 80,000 injuries. Under NHTSA's present permissive standard, those savings may never be realized. Under your bill, they would be.

I would like now to suggest to the subcommittee some areas that need to be explored so that vitally important lessons develop during the years long airbag wars do not go unlearned.

First, automatic belts. The airbags success is clear but what about the other passive system—the automatic seat belt? Many more cars on the roads today have automatic belts than airbags, yet NHTSA has been silent on the performance of these systems, as was pointed out, I believe, by you earlier, Senator Gorton. That silence must end.

Indications from real world crashes are that generally automatic belt designs offer less protection than the three-point manual lap shoulder belts they have replaced, and that some are downright dangerous. These include systems mounted on the door because when the door opens in a crash or roll over, the belt opens with it, leaving the occupant unprotected against ejection or injury inside the vehicle.

Further, some so-called automatic belt designs offer no lap belt protection, which means that in fact they are shoulder only belts, a design prohibited in Europe for many years because of its demonstrated injury producing effects. Others offer manual rather than automatic lap belt systems and so are not truly automatic.

NHTSA should be urged to make an assessment of automatic belts for which an even larger real world database is available than for airbags, and to share with the public and with this subcommittee its knowledge of injuries that automatic belts are causing as well as preventing.

Higher crash protection levels. FMVSS 208 prescribes only 30 mile per hour barrier crash tests. Yet, it has been known for years that crashworthiness levels could and should be substantially higher.

This was shown, for instance, more than a decade ago, in the Research Safety Vehicle project that Joan referred to, a result that appears to have been forgotten

by those who claim that tighter fuel economy standards must somehow degrade safety.

NHTSA action to raise the frontal crashworthiness standards, long overdue, should be urged and if necessary, compelled by Congress.

Finally, follow the leader. NHTSA's present regulatory policy appears to be based on the premise that until the car companies provide a safety improvement in the new car fleet, the agency need not require the improvement and perhaps need never require it.

This position was stated by NHTSA in 1988 and I quote: "This agency has generally concluded that there is no compelling safety need for it to act when vehicle manufacturers are voluntarily taking the desired steps, absent any Federal requirement to do so".

Follow the leader, with NHTSA the follower and the auto industry the leader, was not the vision of the 1966 Traffic and Motor Vehicle Safety Act. That vision, and I quote this committee, was that, "The unconditional imposition of mandatory standards at the earliest practicable date is the only course commensurate with reducing the highway death and injury toll. And the promotion of motor vehicle safety through voluntary standards has largely failed".

NHTSA's present follow the leader policy is but a step away from the failed scenario of industry managed voluntary rulemaking. It is a tragedy that so many Americans have had to die or be severely injured because airbags were not made available to them in the past.

But that tragedy does not diminish the opportunities for future saving of lives and prevention of injuries that unfold from your bill. It can do for future generations what has been denied to past ones, and thereby change the course of public health history.

Thank you.

[The statement follows:]

STATEMENT OF BENJAMIN KELLEY, PRESIDENT, INSTITUTE FOR INJURY REDUCTION

Mr. Chairman, Senator Danforth, members of the subcommittee:

Thank you for inviting the Institute's appearance today. It gives me special personal pleasure to participate in this hearing to consider mandating air bags in all new cars starting in 1995. Since my first Congressional testimony in support of air bags in 1975 I have appeared at literally scores of Congressional and administrative hearings, media interviews, press conferences (including one held by Sen. Danforth in Kansas City in 1984), technical sessions and other settings - indeed, any setting that would hear me on the subject - to urge the mandatory availability of this life-saving technology.

For too many of the intervening 20 years it has seemed that air bags were doomed never to see the light of day - that the auto manufacturers' refusal to provide them would continue to sentence hundreds of thousands of people to death or injury each year for decades to come. But today it can be said with confidence that air bags are here - they are a reality, with growing market share.

What cannot be said yet is that air bags are here for every new car buyer, or that they are here to stay. That is why the aims of your bill, the Highway Injury and Fatality Reduction Act of 1991, are so important and so commendable. To continue withholding air bag protection from those who cannot afford it as a high-priced option, or those to whom a manufacturer chooses not to sell it, would be as contrary to sound public health policy as limiting pasteurization, polio vaccine, or any other disease-prevention technology to only part of the population.

Let us not forget also that the manufacturer who gives may later take away. Under today's National Highway Traffic Safety Administration standard a car company is free to offer air bags to its customers - but also free to withdraw that offer at any time, such as when it loses interest in safety (as history shows car companies often do).

Commendably, your bill would eliminate manufacturer whim as a future determinant of who shall have or not have air bag protection, and when. By making air bags standard on all cars it also will tend to reduce their price - the economies of scale, applied to permanent mass production of air bags, will see to that, as they have for other federally-required safety features on new cars.

The need for your bill is emphatically underscored by data recently developed at NHTSA but, it appears, not yet publicly released by it. These data are contained in a February 2 study, "Estimated Benefits of Air Bags, 1990-1995," which is Attachment 1 to my testimony. They show, not

surprisingly, that at their present leisurely rate of introduction in new cars, air bags will prevent 2,400 deaths and 29,000 injuries over the 1990-1995 period. That equates to an encouraging but unexciting 400 deaths and about 5,000 injuries prevented per year.

But the new NHTSA figures also show, as highly relevant to your bill, that if all passenger cars in operation were equipped with front-seat driver and right passenger air bags, more than 5,300 lives would be saved each year, and more than 63,500 injuries prevented. And those data, which I have recapitulated in Attachment 2, are highly conservative since, among other things, they do not include vans, light trucks and utility vehicles (so-called multipurpose vehicles). These account for about 30 percent of the passenger-vehicle market, a share which is growing. Were they equipped with air bags the annual total of lives saved and injuries prevented could be a third greater than these figures. The front center-seat protection expected from driver and right-front-passenger air bags would further increase the figure.

Under NHTSA's present permissive standard those savings may never be realized. Under your bill they will be fully attained around the year 2010, at the present rate of passenger-vehicle fleet turnover - and, of course, substantially achieved during earlier years of the next century.

I would be less than candid to forego telling you that this seems a discouragingly long time to implement the massive health gains promised by a technology that is now more than 20 years old. But that reservation is vastly overshadowed by deep satisfaction at the prospect that, because of your work and this bill, the day may finally come when air bags are standard for all front-seat occupants in all vehicles on the highways.

Along with satisfaction, however, can come new insights. I would like to suggest to the Subcommittee some areas that need to be explored so that vitally important lessons, developed during the years-long "air bag wars," do not go unlearned. These lessons can inform future national policy directed toward further improving vehicle safety. But recent history teaches us that, if they are left to NHTSA and the vehicle manufacturers, they probably will be ignored. Here are some of them: Automatic belys: The air bag's success is being celebrated in NHTSA press releases, Chrysler ads and news stories, but what about the "other" passive system - the automatic seat belt? This was the system pushed by car companies (originally Volkswagen) that thought air bags were a waste of time. Many more cars on the roads today have "automatic belts" than have air bags, yet NHTSA is silent on the performance of these systems.

That silence must end. Indications from real-world crashes are that generally, automatic belt designs offer less protection than the three-point manual lap-shoulder belts they have replaced - and that some are downright dangerous. These include systems mounted on the door because, when the door opens in a crash or rollover, the belt opens with it, leaving the occupant unprotected against ejection or injury inside the vehicle.

Further, some "automatic" belt designs offer no lap belt protection, which means that in fact, they are shoulder-only belts - a design prohibited in Europe for many years because of its demonstrated injury-producing effects. (Injuries associated with shoulder-only belts include "hanging" upper spinal column fractures leading to death or quadriplegia, and severe upper-torso damage including aortal rupture.) Others offer manual rather than automatic lap belt systems, so that the user must do exactly what is required of a standard lapshoulder belt - that is, pull the belt across the body and latch it - in order to be protected against injuries from the shoulder-only portion.

NHTSA's "Estimated Benefits of Air Bags" study demonstrates the agency's ability to assess air bag performance based on available real-world crash data. Why has it not made a similar assessment of automatic belts, for which an even larger real-world data base is available? It should be urged or required to do so, and to share with the public its knowledge of injuries that automatic belts are causing as well as reducing.

Higher Crash Protection Levels: NHTSA's present passive restraint standard prescribes 30 MPH barrier crash tests, and the agency has published no proposal to increase that level or toughen the test. Yet it has been known for many years, from a wealth of research sources, that crashworthiness levels -particularly in vehicles equipped with air bags - could and should be substantially higher.

This has been repeatedly shown by the results of New Car Assessment Program frontal barrier tests run by NHTSA itself at 35 MPH, which is one-third more severe than the 30 MPH test. Many real-world cars are able to meet this test even with non-passive restraints. It also was shown more than a decade ago in NHTSA's own Research Safety Vehicle programs, where small, lightweight, fuel-miserly cars were designed and built to provide occupant protection in frontal crashes up to 50 MPH barrier equivalent (a result that appears to have been forgotten by those who claim that tighter fuel economy standards somehow must degrade safety).

NHTSA action to raise the frontal crashworthiness standards is long overdue. It should be urged and, if necessary, compelled by Congress.

"Follow The Leader." NHTSA's present regulatory policy appears to be based on the premise that until the car companies provide a safety improvement voluntarily and widely in the new-car fleet the agency need not require the improvement - and perhaps need never require it. This position was articulated in 1988 in NHTSA's Notice of Proposed Rulemaking in Docket 87-08, Notice 1, as FOLLOWS. "As a policy matter, the agency has generally concluded that there is no compelling safety need for it to act when vehicle manufacturers are voluntarily taking the desired steps absent any Federal requirement to do so." This dangerous policy has governed NHTSA rulemaking for a decade

or so. But "follow the leader," with NHTSA the follower and the auto industry the leader, was not the vision of the National Traffic and Motor Vehicle Safety Act of 1966. That vision, stated in the Senate Commerce Committee report of June 23, 1966, on the Act's purposes, saw that "the unconditional imposition of mandatory standards at the earliest practicable date is the only course commensurate with [reducing) the highway death and injury toll," and that "the promotion of motor vehicle safety through voluntary standards has largely failed." NHTSA's present "follow the leader" policy is but a step away, if that, from reinstituting that failed scenario of industry-managed voluntary rulemaking.

In closing, let me repeat that the Institute commends the goals of the Highway Fatality and Injury Reduction Act wholeheartedly. It is a tragedy that so many Americans have had to die or be severely injured because NHTSA's leadership and the car companies, by killing the 1982 passive restraint standard, chose to deny them air bag protection. It is a tragedy that NHTSA administrators since 1980 have forgotten, or have chosen to ignore, the vital central mission of the 1966 Act - to exert leadership, not followership, for improved vehicle safety. But these tragedies do not detract from the opportunities for future saving of lives and prevention of injuries that unfold from the bill before you today. It can do for future generations what has been denied to past ones, and thereby change the course of public-health history.

I will be pleased to answer any questions, Mr. Chairman.

ATTACHMENT 1.—ESTIMATED BENEFITS OF AIRBAGS, 1990-95

NHTSA has developed information regarding the portion of the on-road vehicle fleet that will be equipped with air bags and the safety benefits that will result for each year between now and 1995. The vehicles that will be equipped with air bags through the 1991 model year are known and an estimate of air bag sales can be developed for 1990 and 1991 based on 1989 sales for those models. For 1992-1995, estimates will have to be made based on statements made by manufacturers and assumptions regarding the pace of air bag installation in new models. GM, has announced that it will install driver and passenger air bags in all of its domestically produced vehicles by 1995. Ford has indicated that it will also install air bags in its entire fleet by the mid-1990s (but has not specific a specific year). Chrysler has already installed driver air bags in its entire domestic fleet. Honda has announced that it will install driver and passenger air bags in all Honda and Accura models by the 1994 model year. Air bags are already installed or announced in many models by Volvo, Audi, Toyota, Saab, Porche, Nissian, Mitsubishi, Mercedes-Benz, Jaguar, BMW and Alpha Romeo. Overall, it appears most of the net passenger car fleet will be equipped with driver and passenger-side air bags by 1995. We have estimated annual safety benefits based on the following assumptions:

(1) 90 percent of model year 1995 passenger cars Bill have driver and passenger air bags. Half of the increase in sales of models with air bags (over 1991 levels) will occur in 1995.

(2) Half of the remaining increase will occur model year 1994.

(3) The remaining increase will be spread evenly between 1993 and 1992.

(4) After 9/1/93, (the 1994 model year) all vehicles that have driver airbag systems will also have front seat passenger systems.

90 percent was chosen as the 1995 installation rate because manufacturers' announcements indicate that about 90 percent of all domestically produced vehicles will have air bags by the mid-nineties, and it is assumed that imports will follow suit to stay competitive. Although Ford has not specified the exact year they will be completely converted, it is assumed that they will convert by 1995 to stay competitive with GM, Chrysler, and Honda.

The assumptions regarding the pace of conversion are somewhat arbitrary, but arc consistent with the expectation that installation rates will increase gradually, with most new models being converted during the 1994-1995 period. This expectation is dictated by company announcements and leadtime considerations for both driver and passenger systems.

The assumption that all MY 1994 and later air bag equipped vehicles will have both driver and passenger side systems is based on the fact that the exemption which allows manual belt installations at the outboard passenger position if an air bag is provided at the driver position will expire on 9/1/93. Although manufacturers could provide an automatic belt at the outboard passenger position, it is unlikely that they would do so in any significant production volumes because this would put them at a competitive disadvantage vis-a-vis most other manufacturers who have announced their intention to provide passenger side air bags.

Based on these assumptions, the portion of the in-use passenger car fleet that will be equipped with driver air bags will increase from 1.8 percent in 1990 to 18.3 percent in 1995. The portion that is equipped with passenger side air bags will increase Hom 0.2 during these years are shown in the attached table (Table l). During this time period, assuming that belt usage rates stay at current levels, air bags should save an estimated 2,400 lives and 29,000 moderate to critical injuries.

Note that the benefits shown in Table 1 do not include center seats. Center seating positions are exempted from the automatic restraint requirements of ASS 208 and it is not clear whether passenger-side air bags will provide benefits for these positions. However, the contribution of these positions is minimal, and would increase total benefits by no more than one percent.

ATTACHMENT 2

NHTSA's "Estimated Safety Benefits from Air Bags" (see Attachment 1) projects, on the basis of real-world crash experience with air bag- equipped cars already on the highways, that by 1995 some 18.25 percent of the U.S. passenger car fleet will be equipped with driver-side air bags and that 10.82 percent will be equipped with both driver and passengerside air bags. (See Table 1, "Estimated Benefits of Air Bags, 1990-1995").

An extrapolation from those figures was carried out to estimate the reductions in deaths and injuries which would be realized were all cars on the highways equipped with driver and front passenger air bags, based on the fleet size assumed by NHTSA for 1995.

NHTSA's estimates for that year, based on 18.35 percent of the national passenger-car fleet being equipped with driver air bags and 10.82 per cent with passenger air bags, were that a total of 879 fatalities and 10,597 injuries would be prevented. Multiplying those figures by factors reflecting the projected presence of driver and passenger-side air bags in all cars (5.45 and 9.24, respectively) produced the estimate of 5,368 fatalities and 63,590 moderate to serious injuries prevented.

This estimate would be higher by at least 30 percent if such popular passenger vehicles as vans, light trucks and utility vehicles (multipurpose vehicles) held or expanded their market and fleet shares during the period. It would also be higher to the extent that center front seat deaths and injuries, not counted in the NHTSA study, were reduced by the provision of front seat driver and passenger air bags.

TABLE 1

Estimated Safety Benefits from Air Bags
Assuming No Center Seat Benefits *
1990-1995

	DRIVER			PASSENGER			TOTAL	
	% Fleet w/ Air Bg	Fatals	AIS 2-5	% Fleet w/ Air Bg	Fatals	AIS 2-5	Fatals	AIS 2-5
1990	1.79	72	892	0.15	2	21	74	913
1991	4.02	161	1998	0.32	4	45	165	2043
1992	6.62	266	3295	0.94	13	133	279	3428
1993	9.64	387	4794	2.36	32	332	419	5126
1994	13.27	533	6602	5.47	74	769	607	7371
1995	18.25	732	9077	10.82	147	1520	879	10597
Total		2151	26659		272	2819	2423	29478

* Benefits reflect safety improvement compared to 1989 in-use fleet.

TABLE 2

Driver Air Bag Installations in
the In-Use Fleet***

Survival	1	0.993	0.982	0.964	0.935	0.892	0.831	0.753	0.662	0.568
YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
1986	79000	78447	77578	76156	73865	70468	65649	59487	52298	44872
1987		132000	131076	129624	127248	123420	117744	109692	99396	87384
1988			206000	204558	202292	198584	192610	183752	171186	155118
1989				528000	524304	518496	508992	493680	470976	438768
1990					2627458	2609066	2580164	2532870	2456673	2343693
1991						3181679	3159407	3124409	3067139	2974870
1992							3910452	3883078	3840064	3769675
1993								4639224	4606750	4555718
1994									6096770	6054092
1995										9011860
Total A/B Cars*	39500	144447	311654	674338	2241438	5110873	8579792	12706580	17812866	24930120
Cars in Operation**	117268	119849	121519	122758	124968	127217	129507	131838	134211	136627
% Fleet w/ A/B	0.03	0.12	0.26	0.55	1.79	4.02	6.62	9.64	13.27	18.25

* Assumes an even sales distribution throughout the year. Therefore, only half of the current model years fleet is included the first year.
** In thousands. Based on data in MVMA Facts & Figures '90. Future years estimates based on historical trend.
*** Air bag sales projections are based on 1989 sales levels for specific nameplates. Total sales in 1989 were 10,073,178 units.

TABLE 3

Passenger Air Bag Installations in
the In-Use Fleet***

Survival	1	0.993	0.982	0.964	0.935	0.892	0.831	0.753	0.662	0.568
YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
1986	0	0	0	0	0	0	0	0	0	0
1987		0	0	0	0	0	0	0	0	0
1988			4266	4236	4189	4112	3989	3805	3545	3212
1989				86982	86373	85416	83851	81328	77588	72282
1990					185896	184595	182550	179204	173813	165819
1991						272639	270731	267731	262824	254917
1992							1365042	1355486	1340471	1315900
1993								2457444	2440242	2413210
1994									6096770	6054092
1995										9011860
Total A/B Cars	0	0	2133	47727	183510	410443	1223641	3116277	7346868	14785364
Cars in Operation	117268	119849	121519	122758	124968	127217	129507	131838	134211	136627
% Fleet w/ A/B	0.00	0.00	0.00	0.04	0.15	0.32	0.94	2.36	5.47	10.82

* Assumes an even sales distribution throughout the year. Therefore, only half of the current model years fleet is included the first year.
** In thousands. Based on data in MVMA Facts & Figures '90. Future years estimates based on historical trend.
*** Air bag sales projections are based on 1989 sales levels for specific nameplates. Total sales in 1989 were 10,073,178 units.

Senator BRYAN. Thank you very much, Mr. Kelley. Mr. Ditlow.

STATEMENT OF CLARENCE M. DITLOW, DIRECTOR, CENTER FOR AUTO SAFETY

Mr. DITLOW. Thank you, Mr. Chairman.

On the very day Ralph Nader founded the Center for Auto Safety over 20 years ago, he told us our work for the foreseeable future would be to get airbags in vehicles. Little did we know then how long the foreseeable future would be. After 21 years of rulemaking, including seven final rules by six Secretaries of Transportation, all 1990 cars had passive restraints with about 30 percent having driver side airbags.

The Supreme Court summed up the history of the airbag best in this single phrase. "The automobile industry waged the regulatory equivalent of war against the airbag and lost."

The present rule gives the auto companies the option of using automatic belts or airbags. Many of the automatic belts are some of the poorest restraint systems since the separate lap shoulder belts in 1973 models. Their inherent design flaws will lead to deaths, injuries, and product liability lawsuits for years to come.

Perhaps the worst is GM's three-point belt mounted on the rear edge of each door. The belt is so user unfriendly that most occupants disconnect them. But the biggest problem is this belt permits occupant ejection if a door opens in a crash.

We have reports of 13 deaths and accidents where occupants wearing these belts were ejected. One was a policeman in Brunswick, Maine who lost control of his Chevrolet police cruiser and hit a pole at only 30 miles an hour. The officer was ejected and died a day later. Brunswick now installs manual lap belts in all of its city cruisers.

Overall fatality data show the GM door mounted belt has no improvement over the earlier three-point active belt system. Although we petitioned NHTSA to investigate and recall this belt, NHTSA refused on the basis that its 1984 rule permitted such restraints and the safety issue should be considered through future rulemaking based on a comprehensive analysis of all automatic restraints. By the time that analysis is finished, it will be too late to do anything about the worse generation of seat belts in many years.

With active seat belt use projected to hit 70 percent by 1992, airbags with active belts will provide vastly superior occupant protection than automatic belts. Due to their ability to manage forces in frontal crashes, airbags can provide occupant protection at far higher crash speeds than seat belts alone.

A Virginia woman was driving a 2,600 pound Chrysler LeBaron when it was hit head-on at a closing speed of more than 70 miles an hour by a 4,000 pound Ford wagon. Thanks to the airbag and active belt, the LeBaron driver lived, despite seeing the equivalent of a 42 mile an hour barrier crash. While the Ford driver, wearing a three-point seat belt, died in the equivalent of only a 28 mile an hour crash.

A New Jersey police officer was saved in a 52 mile an hour barrier crash in an airbag Crown Victoria, the highest known crash velocity in which the occupant survived. By mandating airbags now, we can be well on the road to meeting the two decade old goal of the Department of Transportation, providing occupant crash protection at 50 miles an hour.

Senate Bill 591 would extend the demonstrated, life- saving capabilities, the airbag, to both front seat occupants of all passenger cars by 1996, and light trucks and vans by 1988. The Center fully and completely endorses this bill. Nine manufacturers have already installed driver side airbags as standard equipment and will go to full frontal bags by 1993 to 1994.

Nearly all Chrysler cars come with standard driver bags, including the cheapest models, and will have full front seat airbags by 1994. Chrysler began putting driver airbags on its minivans this year and will extend them to its light trucks next year, with passenger side bags to follow passenger car installation.

Among other companies, the trend is clearly to airbags. Ford now puts driver airbags on half its production and is committed to driver and passenger airbags in all cars by 1995. GM lags behind, but it has announced it will have driver and passenger airbags on at least half its cars by 1994.

The Japanese auto makers were slow to adopt airbags, but under public pressure have sped up schedules for installing them. In responses to letters from Ralph Nader, each Japanese company pledged greater installation of airbags. Six companies will have full front seat airbags by 1994 and only Subaru, Daihatsu, and Suzuki lag behind with phase-in plans for driver and passenger airbags, not until 1996 to 1998.

S. 591 is vitally needed to insure that no segment of the American public is deprived of lifesaving airbags. No safety laggards should be permitted. The first time, new car buyer who purchases an economy car has the same right to full front seat airbags as the purchaser of a luxury car.

The biggest single question we hear from new car buyers today is, where is the bag for the passenger, for the minivan, for the pickup, and the economy car. In 1986, 87 percent of Americans felt airbags should be standard equipment on all new cars. Passage of S. 591 would put us on the road to meeting consumer demands for airbags and saving 15,000 occupant lives each year, in conjunction with active seat belts.

Thank you.

[The statement follows:]

STATEMENT OF CLARENCE M. DITLOW
DIRECTOR, CENTER FOR AUTO SAFETY
Before the
SENATE COMMITTEE ON COMMERCE, SCIENCE AND TECHNOLOGY
March 21, 1991

Mr. Chairman and members of the Committee, thank you for the invitation to testify on S. 591, the Highway Fatality and Injury Reduction Act which would require airbags in all light duty passenger vehicles. On the very day, Ralph Nader founded the Center for Auto Safety (CAS) over 20 years ago, he told us that our work for the foreseeable future would be to get airbags in vehicles. Little did we know then how long the foreseeable future would be.

After 21 years of rulemaking including 7 Final Rules by 6 Secretaries of Transportation, all 1990 passenger cars had mandatory passive restraints with about 30% having driverside airbags. The U.S. Supreme Court summed up the history of the airbag best in a single phrase when it said, "[T]he automobile industry waged the regulatory equivalent of war against the airbag and lost".[1] Indeed this Committee first heard about airbags in March 1967 from the initial National Highway Safety Bureau Administrator William Haddon, Jr. who issued the first rule mandating automatic restraints for all cars by 1973. As the subsequent president of the Insurance Institute for Highway Safety who saw his vision of an early lifesaving airbag fleet vanish, Dr. Haddon published "Air Bags: A Chronological History of Delay"[2] which details the record of this tragic delay.

The present passive rule, FMVSS 208, gives auto companies the option of complying with automatic belts or airbags. To comply with the passive restraint requirements of Federal Motor Vehicle Safety Standard (FMVSS) 208, many companies have chosen some type of "passive" belt system. Some systems are better than others at promoting belt usage, but none provides the level of protection given by airbags with conventional lap-shoulder belts. In fact, many of the automatic belts are some of the poorest restraint systems in

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[1] Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Insurance Co., 103 S.Ct. 2856, 2870 (1983).

[2] A copy of this report is submitted for the hearing record.

vehicles since the separate lap shoulder belt in 1973 models. Their inherent design flaws will lead to deaths and injuries and result in product liability lawsuits for years to come.

Automatic belt systems fall into three major categories: door mounted 3-point belts, automatic shoulder belts with manual lap belts, and automatic shoulder belts with no lap belt whatsoever. Perhaps the worst is GM's 3-point belt mounted on the rear edge of each front door and fastened at the inboard end. The shoulder anchor point on the door is so low that people 5'2" and shorter are being strangled across America by the shoulder belt. But the worst problem is this belt permits occupant ejection if a door opens during a crash. Furthermore, the belt's intended configuration is so "user-unfriendly" that most consumers end up disconnecting the belts, thus negating whatever virtues this system has as a "passive restraint".

Accident data demonstrates that the GM automatic belt is unsafe compared to other belts. CAS has reports of 13 deaths and 7 injuries in accidents where occupants wearing these belts were ejected when their door opened. One of the deaths involved a policeman in Brunswick, Maine who lost control of his 1990 Chevrolet Caprice police cruiser and hit a telephone pole at about 30 MPH; the officer was ejected from the Caprice and died a day later from his injuries. The police chief in Brunswick shortly afterwards directed that manual lap belts be installed for the driver in all of the city's cruisers.

Overall fatality data in FARS show that the GM door mounted belt shows no improvement whatsoever over the earlier 3-point active belt system and may even have a higher fatality rate. Although CAS petitioned NHTSA in August 1990 to investigate and recall this belt, NHTSA refused on the grounds that its 1984 rule permitted such passive restraints and that the safety issue should be considered through future rulemaking based on a "comprehensive analysis" of all automatic belt systems.[3] By the time that analysis is finished, it

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[3] Ironically, NHTSA used an analogous argument in 1974 to deny CAS' first petition to recall the infamous Ford Pinto for exploding gas tanks. In denying the Pinto petition, NHTSA said it was in the process of rulemaking to upgrade the fuel tank standard and any consideration of defective Pinto gas tank design should be limited to that rulemaking. In both the GM-belt and Pinto cases, an immediate recall would have saved lives yet NHTSA said it was analyzing the regulation in each instance. In the Pinto case, public outrage over rising deaths in Pinto fire crashes eventually forced NHTSA to investigate and recall this deathtrap. History could well repeat itself with the GM door-mounted automatic belt.

will too late to do anything about the worst generation of seat belts seen in 20 years.

Other automatic belt systems also provide reduced protection. The automatic shoulder belt with manual lap belt results in reduced lap belt used because even the most conscientious user is often lulled into forgetting about fastening the lap belt because the shoulder strap is automatically placed on them. If the occupants forget to buckle the separate lap belt portions, they will suffer leg injuries from "submarining" under the shoulder belt and can even suffer a broken neck from the belt itself. Automatic shoulder belts fastened to the door also suffer from the same ejection problem as GM 3-point door belts. The inadequacies of automatic belts are pointed out quite well in this recent feature article from the Albuquerque NM Journal.[4]

With active seatbelt use projected to hit 70% by 1992, airbags with active seatbelts will provide vastly superior occupant protection than automatic seatbelts. Due to their ability to better manage forces in frontal crashes, airbags can provide occupant protection at far higher crash speeds than seatbelts alone. For example, Denise Brodie of Lancaster VA was driving a 2600 pound 1988 Chrysler LeBaron when it was hit head-on at a closing speed of more than 70 MPH by a 4000 pound 1985 Ford stationwagon. Thanks to the airbag and active belt in her LeBaron, she lived despite her car having the equivalent of a 42 MPH barrier crash while the Ford driver died despite wearing a 3-point seat belt and seeing only the equivalent of a 28 MPH crash. More recently, a New Jersey police officer survived the equivalent of a 52 MPH barrier crash in an airbag equipped Crown Victoria. This is the highest know crash velocity in which the occupant survived. By mandating airbags now, we can be well on the road to meeting the nearly two decade old goal of the US Department of Transportation of providing occupant crash protection at 50 MPH.[5]

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[4] "Deaths Stir Concern Over Safety-Belt Systems," Albuquerque Sunday Journal, A1 (Feb. 10, 1991); "Shoulder Harnesses Failed Two Drivers", id. at A8; "Petition Fails to Spur Agency Probe," id. (Copies are submitted for the hearing record.

[5] NHTSA, "Passive Protection At 50 Miles Per Hour," Presented Before the Second International Conference on Passive Restraints, May 1972.

S. 591 would extent the demonstrated lifesaving capabilities of the airbag to both front seat occupants of all passenger cars by 1996 and all light trucks and vans by 1998. The Center fully endorses this bill. If anything were to be changed in the bill, it would be to move the implementation schedule up by one year as many manufacturers are well on their way to installing full front seat airbags on all their vehicles. Volvo, BMW, Mercedes Benz, Isuzu, Saab, Lexus, and Alfa Romeo now install driver's side air bags as standard equipment on all their models. Porsche puts both driver and front passenger airbags on every model as standard equipment. Nearly all Chrysler-built cars come with standard driver airbags, including the cheapest available models so equipped and will have full front seat airbags by 1994. Chrysler began putting driver airbags on its minivans this year and will extend them to its light trucks in 1992 with the passengerside to follow passenger car installation.

Among other companies, the trend is clearly to airbags. Ford now puts driver airbags on the Taurus/Sable, Crown Victoria/Grand Marquis, and Mustang, and on all Lincoln models; they are optional on the current Tempo/Topaz models. Ford has committed to driver and passenger airbags on all cars by 1995 and to begin vans in 1992. Of the domestic automakers, GM has lagged behind Chrysler and Ford, but the company has announced that it will have driver and passenger airbags on at least half its cars by 1994.

Japanese automakers were slowest to adopt airbags, but thanks to public demand they now have implemented quicker schedules for installing them. In responses to letters sent last October by Ralph Nader, each Japanese company pledged greater installation of airbags. Honda, Mazda, and Toyota will have full front-seat airbags by 1994, and Nissan and Mitsubishi will not be far behind. Among the smaller Japanese companies, Isuzu already puts standard driver airbags on all 1991 car models, and passenger airbags are coming soon. Subaru and Daihatsu will phase in driver and passenger airbags by 1996-98, and Suzuki is expected to do the same.[6]

S. 591 is vitally needed to ensure that no segment of the American public is deprived of lifesaving airbags. No safety

[6] Copies of the Nader correspondence are submitted for the hearing record.

laggards will be permitted. The first time new car buyer who purchases an economy car has the same right to full front seat airbags as the purchaser of a luxury car. The biggest single question we hear from new car buyers today is where's the bag --for the passenger, for the minivan, for the pickup and the economy car. By passing S.591, this Committee will help increase sales of cars like the Saturn where the manufacturer was too slow to realize that the one technological feature consumers most want in cars today is the airbag. As far back as 1986, a Newsweek poll of 15,475 1986 new car buyers, found 87% believe "airbags should be standard equipment on all new cars." More importantly from a safety viewpoint, passage of S. 591 would put us on the road to saving 15,000 occupant lives each year once all passenger vehicles have full front seat airbags.

Senator BRYAN. Thank you very much, Mr. Ditlow.

Let me just ask a couple of questions here. General Curry in testifying, talked of the incentive that was available to manufacturers pursuant to the rule that he has promulgated, and I understood that to be that if an airbag is installed in a van or a light truck, that you do not have to have an automatic restraint system on the passenger side. That you would then have a manual system. Do I understand that correctly?

Ms. CLAYBROOK. I think you do, Mr. Chairman. And I think that it is a most unfortunate provision. First of all, I do not think we ought to talk about withholding safety as being an incentive. That is the first point.

Secondly, the reason that the delay occurred in the cars, beginning in the rulemaking that was finished in 1987, to delay it until 1993 was that it was stated that the suppliers who had been jerked around for 20 years and many have gone out of business, were not ready with the passenger side bags and it needed development time.

That development time will have occurred by 1993 because that is when these passenger bags are going to be in cars. And I see no reason to delay the passenger bags to the vans. There will have to be some adjustments made in terms of size and shape. But that is just size and shape of a bag. That is not the whole technology. And it should be very readily transferable from the passenger side in the car to the passenger side in the van or the light truck.

So, I think that it is a most unfortunate provision and certainly is an argument for your legislation as opposed to the rulemaking.

Mr. DITLOW. Senator Bryan, if I may add.

Senator BRYAN. Yes, certainly, Mr. Ditlow.

Mr. DITLOW. We see this acting as a disincentive to car sales. Consumers who are looking at 1991 models want a passenger side airbag. They are actually deferring the purchase until the 1992 model year when there will be a wider range of cars with passenger side airbags.

So the sooner we get the passenger bag in to the consumers who want to know where it is, the faster we will see car sales increase.

Senator BRYAN. It strikes me as a rather curious rationale, if the original problem was that there needed to be some lead time in terms of responding to the demand, and the inconsistency of the message that has been communicated to the suppliers. But it almost raises the kind of ethical thing that you are talking about, Ms. Claybrook, that apparently the driver is given a higher value system on the moral scale in terms of his or her protection. But the passenger falls somewhere below the cut.

Ms. CLAYBROOK. Well, that is true. I think the companies are also opening themselves up to product liability claims and I think they ought to consider that because there is no reason why you cannot protect both front seat occupants. After all, General Motors did it in 1974.

And I should think that any jury or court of law is going to say, that was certainly state of the art in 1974, why not 1991 or 1995. It is really, in many ways, ridiculous.

So, I do think that it is a decision the agency should not make. I think that many of the manufacturers are going to start to put these systems in in advance. And I will tell you that since more women than men ride in the passenger side, there is a certain resentment from the feminist side of the House as well.

Mr. KELLEY. I think, Mr. Chairman, it is important to recall why NHTSA originally used this so-called incentive provision in the passive restraint standard. It believed, and so stated, that it would induce more manufacturers to put driver side airbags in cars in the first years of the passive restraint standard, the phase-in years, if it permitted this dropping of an automatic restraint requirement on the passenger side.

But the proof of the pudding is that during those years, automatic seat belts, and not airbags, overwhelmingly were introduced in those cars. I do not think that there is any reason to expect that the experience with multi-purpose vehicles, light trucks and vans, would be any different.

It would not only be not an incentive, it might be a counter incentive to getting airbags into these vehicles. We absolutely need to have the full front seat protection starting at year one.

Senator BRYAN. Mr. Kelley, let me ask a follow-up question of you, if I may. You were critical in your testimony of the effectiveness of these automatic seat belts, their design, and the fact that they are frequently unused. Now the standard that is being promulgated today by General Curry would provide, in effect, a continuation of either the airbag or the automatic seat belt system.

Is the industry, from your perspective, doing anything in terms of an improved design standard for the automatic restraint system. Talk about a non-airbag.

Mr. KELLEY. I have not seen any belt system that I regard as effective as the three-point manual lap-shoulder belt, and I am not sure, to be as objective as possible, that there is much the industry can do to design a truly automatic belt that will provide the level of protection of a three-point lap shoulder belt.

One gets into these designs that, as I discussed and as Clarence discussed, are door mounted, or do not have a lap belt, or have separate components. And I just do not see a way around that. And of course, historically, again, it is important to remember that the automatic belt was thrown into the game to stop the airbag.

There was never a push by Government or any safety group for something called an automatic belt. It was developed by car companies who did not want to offer airbags and therefore, came up with what they called an alternative, initially Volkswagen.

Senator BRYAN. Any doubt in your mind, Mr. Kelley, that the safest thing that we can do for American motorists is to provide an airbag on both the driver and the passenger side?

Mr. KELLEY. Not a scintilla of doubt, Mr. Chairman, exactly what your bill would do.

Senator BRYAN. We thank you very much for your testimony this morning and I know that you will be continually involved in advocating these and other safety changes. And we thank the two Mr. Hines' for joining us this morning, and wish the younger Mr. Hines well as he pursues his education at Morehouse. Thank you very much.

Our final panel this morning will consist of Thomas V. Hanna, the president of the Motor Vehicle Manufacturer's Association, and Mr. Gregory Dana, the vice president and technical director of the Association of International Automobile Manufacturers.

Gentlemen, welcome to the subcommittee hearing this morning and Mr. Hanna, we will hear from you first, sir, when you are ready.

STATEMENT OF THOMAS H. HANNA, PRESIDENT AND CHIEF EXECUTIVE OFFICER, MOTOR VEHICLE MANUFACTURERS ASSOCIATION OF THE U.S., INC.

Mr. HANNA. Thank you, Mr. Chairman. I am Tom Hanna, and I am here representing the member companies of the Motor Vehicle Manufacturers Association. Thank you for this invitation to appear.

MVMA supports vehicle occupant safety improvement in the fastest, most cost-effective manner. Today there are millions of vehicles on the road equipped with airbags.

While we have had only limited experience with them relative to safety belts, early indications are showing their effectiveness in reducing injuries and fatalities in frontal collisions.

As a result, all of MVMA's car manufacturing members, including Chrysler, Ford, General Motors, Honda, and Volvo plan to have airbags as standard equipment in both driver and front seat outboard passenger positions in all of their cars by the mid-1990's.

Although airbags are performing to expectation, it is essential to remember that these are supplemental restraint systems which must be used in conjunction with safety belts.

Airbags are good at providing frontal crash protection when used with the available safety belt restraint system. Airbags alone, however, offer little or no crash protection when a vehicle is involved in a side impact, rear impact, roll over or secondary impact.

According to the National Highway Traffic Safety Administration's estimates of restraint system effectiveness, the airbag without the belt system employed is less than half as effective as a three point belt system in preventing injury or death considering all crash modes.

In addition, it will take many years to equip the entire U.S. fleet with airbags even with the action under way to get them into all cars.

Given the immediate life saving value of safety belts, domestic vehicle manufacturers have spent $100 million over the last several years, working in cooperation with the Department of Transportation in an effort to get motorists to buckle up through the passage of state mandatory seat belt use laws and public education campaigns. These efforts are continuing.

As a result of this collective effort, 38 states and the District of Columbia are now covered by belt use laws, and nationally, belt use has risen from 14 percent in 1984 to 50 percent today. But the job is far from done.

We need to enact safety belt use laws in the remaining states and close as many loopholes that might exist such as not including truck and van occupants under these laws.

Therefore, we urge you to include in your bill an initiative which would provide incentives to states to pass mandatory belt use laws with primary enforcement requirements and the loss of some highway funds if they do not act.

Requiring belt use would increase the number of lives saved and reduce the number and severity of injuries immediately and at no additional cost to consumers because these belts are already in vehicles on the road today.

Again, we emphasize this because even though the car companies are going to 100 percent implementation of airbags, it is critical that they be regarded for what they are; that is, the bag is supplemental to the three point belt system.

However, with regard to S. 591, our member companies cannot support legislation that mandates design standards for safety performance of motor vehicles. The National Traffic and Motor Vehicle Safety Act was established to provide the procedures and criteria by which safety performance is mandated in motor vehicles.

For 20 years, this has served well as a framework by which the government, the industry and all other interested parties can participate in the rule making process and provide information and data on which regulatory decisions are made.

Those decisions involve such important considerations as the level of safety performance, testing criteria, procedures, industry lead time, and vehicle applicability.

In addition, the rule making process can respond to unforeseen factors, including major interruptions of materials and supply, such as the recent well publicized fires at a chemical plant which provides propellant for airbag inflators.

The requirements of S. 591 are particularly troublesome for trucks and multipurpose vehicle applications which have longer normal life cycles than passenger vehicles.

This category includes several sizes of pickup trucks, minivans, full-size vans, 2- and 4-door sport utility vehicles, and vehicles designed for rugged, off road operation. Unlike the view of some that airbags are merely plugged into a vehicle, each of these is a different design requiring unique redesign of the front structure, instrument panel, steering column, and electrical systems to accommodate the airbags.

The airbag module itself will be unique for each vehicle, particularly for the passenger side, because of the differing sizes and shapes of instrument panels. The passenger side airbag also must be designed to accommodate passengers of all sizes from infant to adult, as is the case with passenger vehicles.

Should the Congress decide to proceed with this legislative proposal, the implementation schedule should be revised to take into account the need for adequate design and implementation lead time, especially for light trucks and MPV's.

One option to provide some flexibility would be to provide credits for the installation of airbags ahead of schedule so as to allow for the most orderly implementation approach for all manufacturers, particularly those with large varieties of vehicles.

Mr. Chairman, that completes my prepared remarks. Thank you very much.

[The statement follows:]

SUPPLEMENTARY STATEMENT OF THOMAS HANNA, PRESIDENT AND CHIEF EXECUIVE OFFICER, MOTOR VEHICLE MANUFACTURERS ASSOCIATION OF THE U.S. INC

Ms. Claybrook, on Page 3 of her prepared statement, stated that with the "political imperative to increase automotive fuel efficiency, the airbag technology offers great safety protection to compensate for any small reductions in size and weight." The proposed CAFE legislation currently being considered in the Senate, S.279, would not result in "small reductions in size and weight," as stated by Ms. Claybrook but in very significant reductions. While airbags, in combination with lap and shoulder belts, are effective in reducing serious injuries and fatalities, drivers of larger vehicles with supplemental airbags generally fare better than drivers in small vehicles with airbags. This circumstance was vividly demonstrated in the recent Insurance Institute for Highway Safety crash test of a Geo Storm and a Buick Park Avenue, both of which were equipped with driver airbags. Try as she may, Ms. Claybrook cannot repeal the laws of physics.

Ms. Claybrook's statement then pointed to the Minicars research safety vehicles (RSV) as a "truly socially responsible car," claiming that it "can achieve up to 40 mpg (depending on its engine)." The attached Department of Transportation Fact Sheet (Attachment I) shows that the Minicars RSV achieved 32 mpg, not the 40 claimed by Ms. Claybrook. No gasoline engine used in any of the Department of Transportation research safety vehicles came close to achieving an EPA combined rating of 40 mpg. The Department of Transportation did discuss using a Volkswagen turbocharged diesel in the Calspan/Chrysler RSV. Diesel power would have added greatly to the projected cost of the RSV. Moreover, diesels currently attract less than 1% of U.S. car sales.

The research safety vehicles which Ms. Claybrook touts were fraught with other problems. The performance of the Minicars RSV was considerably worse than that of small, fuel-efficient vehicles produced in that era. The German government, which tested the vehicle, stated that it, "exhibited serious defects in basic design which would not allow safe operation in traffic." Mercedes-Benz, during their tests of the vehicles noted that "safe driving in real traffic would not be possible due to the steering system" and that, "insufficient pedal force makes steady braking difficult. In emergency stops the pedal was pushed to the floor, although no fading occurred." The vehicle lacked air conditioning and other features necessary for consumer acceptance of any automobile. These accessories, of course, would add to the vehicle's weight and power requirements, further reducing performance and fuel economy.

MVMA and its member companies do not claim that passenger cars can't be built that achieve 40 mpg or better. In fact, of course, some already do. It is simply, that because of their size and other characteristics, in recent years such vehicles have attracted a small percentage of buyers (Attachment II). Thus, to require a total CAFE fleet of such vehicles is not feasible to meet consumer needs and equipping these vehicles with airbags will not make them as safe as large cars with airbags.

Advocates for particular vehicle characteristics (i.e., fuel efficiency, occupant protection) often mistakenly make reference to experimental or prototype vehicles as solid evidence that production models can be successfully introduced.

However, prototype vehicles generally are developed by manufacturers to explore the potential limits of certain vehicle characteristics (i.e., fuel efficiency) in order to assess the extent to which they can be integrated into the full performance capability of other vehicles that will be acceptable to consumers (Attachment III). Miscalculations in this regard expose manufacturers to the possibility of a marketing disaster (and, as Ms. Claybrook is of course aware, perhaps warranty and product liability litigation and recalls). Manufacturers, unlike such advocates, are constantly aware of the basic reality of the marketplace; namely, that no one has to buy any particular make or model vehicle, or even any new vehicle at all.

Finally, the history of Federal Motor Vehicle Safety Standard 208 and the debate over passive occupant restraints is one of the longest and most complex in the annals of U.S. government regulation. Fortunately, the decision on FMVSS 208 by (then) Secretary of Transportation Elizabeth Dole in 1984 succeeded in cutting the "Gordian knot" of that controversy and opened the way for significant advances in in-use occupant protection through encouraging the enactment of safety belt use laws and the introduction of passive restraints, including millions of airbag-equipped vehicles.

Ms. Claybrook was a very active, deeply committed advocate in the FMVSS 208 debate, and in her testimony on March 21 naturally gave only her particular perspective of selected aspects of that long, involved history.

In her indictment of vehicle manufacturers, she chose to omit reference to the decision to initiate rulemaking, made during her tenure as NHTSA Administrator, which nullified the program begun by Secretary of Transportation William Coleman in January 1977, in which manufacturers had agreed to introduce thousands of airbag systems. Instead an "all or nothing at all" regulatory approach was insisted upon at a time when (a) the technology for airbags was not mature and (b) the public attitude for such a safety device was one of apathy. Moreover, this proposed regulatory approach ignored any serious effort to improve seat belt use (which is also essential for airbag equipped vehicles). The action that scrapped the Coleman plan effectively delayed the much needed field experience with airbags that was offered and set back the safety cause for years.

The Dole decision to allow sufficient phase-in of airbags, both in the number of vehicles as well as by seating position, together with a strong program for mandatory seat belt use laws proved to be the right public policy decision at the right time.

Fortunately, today the vast majority of the highway safety community have moved beyond the battles of the past and millions of airbag systems are coming into the marketplace and more and more states (38 to date) have adopted safety belt use laws.

Attachment I

fact sheet

United States
Department of Transportation

Office of Assistant Secretary
for Governmental and Public Affairs

Washington, D.C. 20590

The information contained in this fact sheet has been checked for accuracy and corrected as of the date shown below. The Office of Assistant Secretary for Governmental and Public Affairs should be contacted if further information is required.

Date: June, 1970

Subject: Research Safety Vehicle: A prototype vehicle developed by Minicars, Inc. of Goleta, Calif., under a contract with the U.S. Department of Transportation's National Highway Traffic Safety Administration.

Purpose: The Research Safety Vehicle Program is designed to demonstrate that substantially improved safety, good fuel economy and low exhaust emissions can all be achieved in an attractive, comfortable and affordable four-passenger car.

Safety Features: Frontal Protection -- The vehicle's structure and restraint systems are designed to provide protection in 45-50 mph frontal and frontal oblique crashes without serious injury to the driver and front passenger.

Side Protection -- The car is designed to eliminate 75% of the serious injuries and fatalities that now occur in side impact accidents.

Pedestrian Protection -- Development tests of the no-damage bumper and exterior plastic surfaces indicate significant reduction of impact forces on a pedestrian.

Structure: The vehicle structure is made of thin sheet metal similar to current unitized body production, but with hollow sections filled with light weight inexpensive polyurethane foam. The foam-filled structures provide improved protection by controlling crash forces and maintaining occupant compartment integrity.

The car features gull-wing doors with strong posts and sills that are much less likely to be crushed inward in side impacts than cars now in use. High strength rollbars, roof supports and rails form the upper structure.

Restraint System: The vehicle employs the most advanced occupant protection systems available. Front seat occupants are protected in 50 mph frontal and frontal oblique collisions by air bags that inflate in 25 milliseconds (the time it takes to blink your eye) to provide automatic protection.

Rear seat occupants are provided with force limited three-point manual belt systems.

Engine: The car is equipped with a Honda Accord CVCC four cylinder, stratified charge engine located in the rear, and a five-speed manual transmission. Evaluation of engine data from the Honda Motor Co. indicates the following:

Fuel Economy: 32 miles per gallon - combined urban/highway cycle

Exhaust Emissions: 0.41 gram/mile - hydrocarbons
3.40 gram/mile - carbon monoxide
1.30 gram/mile - nitrogen oxides

These levels meet EPA requirements for 1980. Development work is continuing so that future models will meet the standards of the mid-1980's.

Acceleration: Zero to 60 mph in less than 17 seconds.

Damageability: The front and rear bumpers are made of resilient foam covered by flexible urethane faces, and are designed to provide 8 mph frontal and 5 mph rear no-damage protection. Structural damage in frontal crashes above 8 mph, but below 20 mph, occurs only in a bolt-on, replaceable section behind the bumper, allowing quicker and cheaper repair.

The exterior surfaces of the car in front of and behind the doors are made of flexible polyurethane which will eliminate or drastically reduce cosmetic repair costs that result from parking lot or minor roadway accidents.

Size and Weight: The interior space for occupants is equal to the average compact class of vehicles being sold today. However the total weight of 2,500 pounds is in the range of today's sub-compact cars.

Future Models: The present program calls for the building of 12 test vehicles. Development work on various advanced systems is still continuing. Future models, in addition to the improvements in the existing car, also will feature:

1. Anti-skid brakes that will reduce stopping distances 30 percent or more on wet pavement.

2. A dashboard electronic display that will enable the driver to monitor the operating condition of the car.

3. A radar braking system that will signal a warning if the vehicle is too close to the rear of another vehicle and will automatically actuate the braking system if a high speed crash is unavoidable.

Attachment II

There are 40-mpg cars today, but they have weight, size and interior space far smaller than the average car. For example, today's average 40-mpg car is 16 percent smaller and weighs about 1,250 pounds less than the average car purchased. It is not surprising that these vehicles met the needs of less than 3 percent of the car-buying public in 1989.

Carlines With Fuel Economy Ratings More Than 40 MPG Account for Less Than 3 Percent of Sales

Carline	Interior Volume Index* (cu. ft.)		Weight* (lbs.)		Percent of Market** (pct.)
Chevrolet Sprint	78		2000		0.5
Geo Metro	82		2000		0.6
Suzuki Swift	82		2125		0.1
Ford Festiva	87		2125		0.7
Honda Civic CRX	na		2250		0.4
Daihatsu Charade	80		2250		0.1
Dodge Colt	84		2500		0.3
Average 40+ MPG Cars	82 -		2125 -		2.7
		16% smaller		1246 lbs. lighter	
Average Car Purchased in 1990	98 -		3371 -		na

* EPA certification data
** Based on 1989 DOE data

Attachment III

HIGH FUEL ECONOMY PROTOTYPE VEHICLES

Company	General Motors	Volkswagen	Volvo	GEO (Prod. Veh.)
Model	TPC (gasoline)	Auto 2000 (diesel)	LCP 2000 (diesel)	Metro XFI (gasoline)
Number of Passengers	2	4-5	2-4	4
Aerodynamic Drag Coefficient	.31	.25	.25-.28	
Curb Weight (lbs)	1040	1716	1555	1625 (2125 TWC)
Maximum Power (hp)	38	53	50	61
Fuel Economy (mpg)	61 City 74 Hwy	63 City 71 Hwy	56 City 81 Hwy	59 City 75 Hwy
Innovative Features	Aluminum body and engine.	DI with plastic and aluminum parts, fly-wheel stop-start.	HI magnesium use.	Production vehicle available now.

Source: Motor Vehicle Manufacturers Association of the U.S., Inc.

Senator BRYAN. Thank you, Mr. Hanna. Mr. Dana, we will hear from you, now.

STATEMENT OF GREGORY DANA, VICE PRESIDENT AND TECHNICAL DIRECTOR, ASSOCIATION OF INTERNATIONAL AUTOMOBILE MANUFACTURERS, ARLINGTON, VA

Mr. DANA. Thank you, Mr. Chairman. My name is Gregory Dana. I am Vice President and Technical Director of the Association of International Automobile Manufacturers.

AIAM is a trade association that represents companies which distribute passenger cars and light cars in the United States that are manufactured both here and abroad.

The Association represents 21 companies which employ thousands of Americans in their distribution, transportation and manufacturing operations.

AIAM is pleased to appear before the subcommittee today to offer our views on S. 591 and to inform you of our members' plans to offer airbags in their vehicles.

AIAM members have been in the forefront of safety technology, particularly in the area of occupant restraint systems. Our members were the first to offer integral lap/shoulder belts for front seat occupants, and many of our members incorporated rear lap/shoulder belts well in advance of any requirement to do so.

In addition, AIAM member companies were in the forefront of the introduction of automatic tensioning belts and adjustable belts as well as the introduction of automatic braking systems.

Our members were also among the first to offer driver airbags as standard equipment as early as the 1986 model year. Likewise, both driver and passenger airbags were offered as standard equipment as early as the 1987 model year, and

we also represent the only manufacturer to date to offer standard driver and passenger airbags in all models.

Our members are moving rapidly to incorporate airbag technology for both front seating positions in passenger cars, with nearly all of our members' models being so equipped by the 1994 model year.

General Curry, NHTSA administrator, in testimony before this subcommittee, both previously and today, stated that it is clear that the market place is demanding widespread application of airbag technology and that it is equally clear that a government mandate is not needed. We agree.

Consumer demand for safety features, particularly airbags has risen dramatically in the past few years. Automakers have learned that safety sells and are moving rapidly to meet that demand.

It is important to note, however, that airbags are a supplemental system for frontal protection, and that usage of existing lap/shoulder belts is critical to occupant safety.

For light trucks and vans, NHTSA has now finalized rule making that would requiring the phase-in of passive restraints beginning in the 1994 model year with all such vehicles required to provide passive restraints by the 1996 model year. With the "one-car" credit for a driver's airbag expiring with the 1997 model year, and with consumer demand for the technology, it is likely that some light trucks and vans will have airbags on a schedule earlier than that contained in S. 591.

This does not mean that the requirements contained in S. 591 pose little additional burden. Setting a design standard in legislation places an unwarranted burden on the industry. In writing the Safety Act, Congress wisely did not even allow NHTSA to set design standards. A design standard stifles innovation.

If this legislation were passed and a technology better than the airbag was developed, such as passive or friendly interiors, a manufacturer would be precluded from using that technology absent an act of Congress.

In summary, airbags are quickly being implemented in all passenger carrying vehicles. Therefore, S. 591, while clearly well intended, is ill-conceived. It would unduly restrict manufacturing options and technological innovation. In addition, it would set a bad precedent of forcing design standards on motor vehicle manufacturers, rather than setting performance targets that allow flexibility to meet those requirements.

Thank you for this opportunity, and I would be happy to answer any questions you might have.

Senator BRYAN. And we thank you Mr. Dana.

Mr. Hanna and Mr. Dana, you have heard the testimony by General Curry and the safety advocates this morning. I think it is fair to characterize their statements as concluding that there is nothing by way of a passenger restraint system that provides more safety than an airbag coupled with the use of the seat belt, manual seat belt.

The two of you agree with that?

Mr. HANNA. Yes, sir. That is with the three point belt or harness.

Senator BRYAN. The three point, yes.

Mr. DANA. And I would stress, too, that the wearing of that belt is very critical, especially in terms of other types of accidents rather than a frontal accident.

Senator BRYAN. And that point has indeed been made. So we start with the premise that the airbag and the three point seat belt is the safest thing we can do by way of passenger restraint.

Ms. Claybrook made an interesting observation. And to paraphrase her she said that in effect to withhold this technology that now exists and is being

implemented in part, raises at least an ethical question on the part of manufacturers.

In other words, we know that it works. You all agree as I think does everyone who has looked into this issue. Why not require it to be done? There is no question it will save lives. What argument can you make as to why it should not be done? Why should it not be required if we know that it saves lives and prevents the kinds of injuries that Senator Danforth and others have discussed? Why should we not do it?

Mr. HANNA. It is being done, and the only question is is the manner in which it is done, Mr. Chairman.

We have expressed, I have expressed some specific, and I think some legitimate, concerns with the legislative approach toward design standards, but the car companies are introducing them as rapidly as they can. Their plans are such that on the schedule that you have indicated in your legislation, they will be fully in force.

We have, we think, some legitimate concerns of the kinds that I raised. Suppose, for example, there is an interruption of supply of the propellant material. That is going on currently with one manufacturer. Does that require another act of Congress, then, to allow that manufacturer to continue to produce?

What we are suggesting is that these things can be better handled through the regulatory regime of the National Highway Traffic Safety Administration, but the end point is the same in either event. It is full implementation of airbags in automobiles as rapidly as they can put them in. There are millions out there now.

Senator BRYAN. Mr. Hanna, let me follow up on that lead, there. I am not so sure that I lack the confidence that you do that if some sort of misfortune would befall a supplier of a particularly part of an airbag, that there would not be some alternative available.

But if you favor the regulatory approach to the statutory approach, have you and the client interest that you represent gone to the agency and said, look, we do not like the statutory approach in S. 591 for that reason? We urge that you promulgate a standard with respect to passenger automobiles that would require both driver and passenger airbags within a period of time.

Mr. HANNA. We have regularly corresponded and talked with the administrative agency about rule making that they have in place, but since the car companies are doing it anyway, they did not feel the need to have a rule put in place to do this.

Now, again, they are fully committed to the installation of airbags. What I am suggesting is that the administrative rule making procedure is preferable to legislation because of the flexibility of the kind that I have described that it does provide.

Senator BRYAN. But you cannot have it both ways, is my point, Mr. Hanna. You can't say the statutory approach denies the flexibility that regulation has, and then not, from my perspective at least, urge the regulators to do specific things that would comply with the concerns that you have.

Now, let me ask you specifically if you are authorized with respect to your client interest. What can you tell us, in terms of the commitment, at what year will each of the automobile manufacturers that you represent, with respect to passenger cars, have an airbag on both the driver and the passenger side?

Mr. HANNA. I expect that that will be for the 1996 model year starting in 1995. That is my expectation, barring some unforeseen circumstances.

Senator BRYAN. Can you on behalf of them make that commitment?

Mr. HANNA. I cannot commit any specific car manufacturing company. I am completely confident in their statements that they are going to do it. But only they are going to commit themselves.

Senator BRYAN. And they have not authorized you to make any statement to that effect, I take it?

Mr. HANNA. Only the car manufacturing companies themselves can make commitments of that kind for them. They have said that they are going to do it. I take them at their word.

Senator BRYAN. Then I would just indicate that we will leave the record open for their specific and direct comments. As you know, they asked you to appear to represent them. I would not want to leave any inference that they were not invited to attend or participate.

Mr. HANNA. That is not my understanding, Mr. Chairman. I thought that I was specifically invited so that there would be one representative for the industry.

Senator BRYAN. Well, you were, indeed, but it is our understanding that that was the preference of the industry as well. And certainly, if they want to come and testify, we will have an additional time for them to respond and to submit any testimony.

Mr. Dana, how about you, sir, on behalf of your clients. Are you authorized to give us any commitment that any of the manufacturers will, indeed, with respect to passenger automobiles, have airbags within a set time period on both the driver's side and the passenger side?

Mr. DANA. I cannot commit for my manufacturers, either, Senator, but I will point out that there have been public press releases by a number of the manufacturers, and many of the larger Japanese manufacturers have made it clear that by the end of the 1994 model year, they intend to have driver and passenger protection.

Many of the European manufacturers who have really been in the forefront of driver airbag technology will likely move towards that as well, simply because the credit for, the "one-car" credit, if you will, expires in that year. It is likely that that natural move would be to passenger airbags in that time frame.

So I think the vast majority of our people will be, in fact, offering full frontal protection in or around the 1994 model year.

Senator BRYAN. Thank you, Mr. Dana and Mr. Hanna. I do not want to appear to be a doubting Thomas here, but as both Ms. Claybrook and Mr. Kelley pointed out, the industry has, over the years, had some starts and some stops and some changes of direction.

As I look at the chronology of airbags, the patents were filed in the early 1950's. The technology, in terms of the development of the airbag, began in about 1964. From my information, NHTSA came into existence, as you know in the 1960's, and the manual lap and shoulder belt standards became required by law.

And then back in 1970, Secretary of Transportation, then-Secretary Volpe, amended the standard to require airbags in cars by 1973.

Now, that's 18 years ago. I think you would concede that, in 1991, we do not have airbags either in driver or the passenger side of all automobiles. So when one feels a little less confident that these things will occur, there is at least some history to make one skeptical.

You know, and the record reflects, that over the years, the industry has sought to have the standard rescinded administratively, held in abeyance, delayed, litigated.

Based upon your conversations with your client, are you authorized to indicate that there will be no such delaying tactics, either through administrative action that they seek or oppose or any litigation?

Mr. HANNA. It is true that there has been a long history to airbags. And I am not sure that my recounting it here—I suspect you know it as well as I do. There are probably as many different opinions on the subject as there have been people involved in this issue—both within car companies and in other organizations.

The circumstances now are entirely different than they were 5, or 10, or 15, or 20-years ago.

Senator BRYAN. In what respect—let me give you the opportunity, Mr. Hanna.

Mr. HANNA. Well, because there are now several million automobiles on the road with airbags in them. And we have good evidence that they are working well. The public is now receptive of the technology. It is an advantage to advertise airbags—you may have seen car companies prominently displaying that. The public's perception is considerably different.

There was, for a long time, a legitimate concern—which I personally had, that was alluded to this morning—that if you go to an airbag, that there is somehow an idea that this solves the safety problem.

The 3-point lap and shoulder harness, of course, is the more effective device in that respect. But the circumstances now are entirely different. There are millions of them on the road. They are working well. Manufacturers have confidence in them. The public has confidence in them. Manufacturers are competing in their advertising to display these.

You know, there was testimony here a little while ago that product plans change about every 3 months. Well, that is crazy. They do not. You have to put tooling decisions in place years ahead of time.

So when car manufacturers tell me that front driver and out-board seating position airbags in automobiles by the middle of the 1990's are a reality, there is no doubt in my mind that that is what is going to happen.

The circumstances are changed, Mr. Chairman. And I am not here to try to argue about every decision that was made over the years. I would hope we could play the ball that is on the tee now. And that is the fact that there is just a great incentive to do it. And that is where the car manufacturers are going. There is no question about it.

Mr. DANA. Could I add, Mr. Chairman——

Senator BRYAN. Surely.

Mr. DANA. Clearly with the direction it is going, consumers are demanding airbags. And that is going to happen. Our members have said that publicly.

I think the important point to remember is, that if what we want is the ability of the consumer to choose airbag technology with the volume of cars that are going to be available in the marketplace, it is going to be a competitive disadvantage for any manufacturer who does not offer those vehicles with airbags.

In fact, when a consumer narrows his choice down to three or four competing models, clearly it appears to us that if one or two of those vehicles do not have an airbag, that consumer will choose the vehicle that does have one. So I think there will be a—there is certainly an incentive for manufacturers now to go that way.

Senator BRYAN. Mr. Dana, you may very well be right.

What I find particularly troublesome about that line of reasoning, is that in terms of corporate responsibility, is this. What the two of you seem to be saying in part is that an automobile manufacturer that possesses the technology and the know-how, and can, in fact, equip an automobile with a safety device, such as this, that we acknowledge to be the best of passenger restraints, coupled with the three-point seat belt, that the industry will only install that when consumer demand requires it.

It strikes me that that is not a very responsible corporate approach. In other words, that is simply saying to me that only when the demand is out there, that we are forced to do it, are we going to do it—even though we have the technology. And I think it would be conceded that thousands of lives are lost every year because of crashes that airbag installation would have prevented, and many thousands of other injuries occur, some of the kind that Senator Danforth was talking about.

I mean, how can you justify that kind of approach?

Mr. Hanna, let me give you a chance to"——

Mr. HANNA. Well, I do not think it is that simple, Mr. Chairman—with all due respect.

The consumer demand for them that manufacturers respond to represents consumer acceptance of those devices. Now over the years, the installation of airbags on limited production has been very expensive. The car manufacturing company that ran up its production costs, and its prices substantially in the lack of a perceived or a market demand for those vehicles is at a competitive disadvantage and would have done no good. Because they would not have been moving those vehicles.

You have to have market demand, or somebody will pick the vehicle at the lower price that does not have one. That is behind us.

Senator BRYAN. But is that not an argument for—if there is a public safety—is that not a pretty strong argument either for a regulation or a statute to require it?

Mr. HANNA. We have not argued with the regulatory approach to these problems, Mr. Chairman. Contrary to previous testimony that you have had, I think the rulemaking with respect to airbags in automobiles has worked very well.

When the rule was issued, you may recall, it was explicitly stated in there in performance terms. And it was explicitly stated in terms to encourage a variety of approaches to see which was the best way to do this.

Airbags won hands down. That is why there are millions of them going on the road. The rulemaking that was put in place for automobiles has worked. There are millions of them out there, and car manufacturers are now committed and are putting them in place, heading toward 100 percent of their production. So I think that rulemaking worked very well.

Senator BRYAN. Mr. Dana, let me give you a chance to respond.

Mr. DANA. I guess what I would suggest is going back to General Curry's testimony. He has indicated that this summer they are going to have a large push for the wearing of seat belts. And I think clearly, if there is a need for the Government to get involved—either through State mandatory use laws or other forums—we need to get people to wear seat belts. First and foremost, that is the most important thing in terms of all crash situations.

I might just mention that our previous panel the survivors of those crashes pointed out they were, in fact, in automobiles where there were more than just the driver. And only the driver had an airbag. And yet the passengers also survived with few injuries, because they were wearing three- point lap-shoulder belts.

So I think I would suggest that consumer demand is moving us very quickly towards incorporating airbags. What I think we need to be looking at now is trying to get the usage rate of the existing three-point belts up. That is truly critical. And as you say, it has to be both. And that is why it is important to get that usage up as well.

Senator BRYAN. I do not disagree with the use of seat belts. I signed such a law as governor a few years back.

I must say—and this will be the final point that I make, and then I will yield to you for any comment that you might make—that when you look at the record of this thing, and I am not pointing to you, Mr. Hanna, or you, Mr. Dana, directly, because there have been a lot of people who have been involved in this for a good many years.

But I am astounded, quite frankly, with the ingenuity and the resourcefulness of the arguments as to why we ought not to go to airbags.

This one here, I thought was probably the capper.

During a rulemaking on airbags back in 1984, an economist was brought in to testify or to offer evidence against airbags. Professor Lloyd Orr is the gentleman's name. I do not know him, but this comes from the Federal Register.

Mr. Orr argued that airbags would encourage motorists to drive less safely, since they would be given more safety than they desire, and would compensate accordingly. Their argument is based on the risk-compensation hypothesis which states, for example, that given better brakes, a driver is likely to follow more closely, negating some of the benefits associated with the safer braking system.

Now, I mean that argument was offered not by some radical, wild-eyed, crazy, but by responsible witnesses. You can go on, and on—and there was testimony that indeed there might be some potential adverse environmental impacts in using sodium azide as a propellant to inflate the airbag.

Now, I must say that the impression that I think a fair and open-minded reader of the record would conclude is that no effort will be left undone to offer some reason or hypothesis as to why this should not be done. And it is for that reason that I hope you are correct—that indeed we have every automobile manufactured the model year 1996 fully-equipped with an airbag on both sides. I am a little less confident of that.

And we leave the drivers of the small pick-ups, the mini-vans, and other type of multi-use vehicles in essentially this never, never land—with the option of an automatic seat belt, which I think we have all conceded is not as good as the combination of the airbag and the three-point seat belt.

Let me defer to you, Mr. Hanna. That is not your testimony. And I want to make it very clear to you—

Mr. HANNA. I was going to ask you which car companies those two people were down here speaking for. I am not expert on either one of those subjects.

Senator BRYAN. Well, I did not represent that they are from a car company.

Mr. HANNA. I understand, Mr. Chairman. And again, I am not here to be argumentative about past history or anything.

Senator BRYAN. And I want to make that clear that I am not saying that this was a car manufacturer. But this was certainly a group that is allied with the—

Mr. HANNA. I understand. There has been a tortured history and no complaint about it.

May I make one——

Senator BRYAN. I think you are safe, go right ahead.

Mr. HANNA. I am safe, but I cannot hear myself.

May I make one further observation?

Senator BRYAN. Surely.

Mr. HANNA. You know, the question of integrity has come up here several times. And please, it is not directed to you. But I want you to know that I personally, as a person who has been in this industry for a long time, resent it.

The people that I work with drive automobiles and make good faith decisions like anybody else does. There is no intention to withhold safety from the public. That is not the object. You can criticize judgments, but over the years, my constituents—if you will—are the people who, when the hearings are done, and

the talking is stopped, actually have to go away and do something about it and produce, and take responsibility for it. And that is called accountability.

And I particularly resent it from some of the people who were here on the previous panel who sat here and misrepresented quite a number of points to you. And at some point, or any point, I would be quite pleased to tell you exactly what they were.

Senator BRYAN. Sure.

Mr. HANNA. One of them is the Research Safety Vehicle—it was represented as 40 miles per gallon—that was the highway number. The regulatory number was 32, and it was not even a real car. It was a crude and amateurish affair that could not even be operated on the public highways.

And to hold that up as an example of what can be done with automotive transportation just simply misrepresents the case.

Senator BRYAN. I would give you an opportunity, Mr. Hanna, to supplement your comments. We are not trying to cut you off. You certainly have the right. We will be happy to receive additional comments.

Go right ahead. Mr. Hanna, please. Go right ahead.

Mr. HANNA. No, I do not propose to belabor the point. All I am saying is—and I beg your indulgence on this. I do take offense at the idea that there is something unethical about what the car manufacturing companies and the people that work in it, and their managers, have done in this case.

You criticize judgments and the things that have been done. But I do not see it that way at all. And I just feel compelled with your indulgence, sir, to state that for the record.

Senator BRYAN. Your testimony is certainly welcome. That is why we have you here.

Mr. Dana, let me give you the final——

Mr. DANA. Let me just add one point, Mr. Chairman.

I think it is very easy to look back in past history and decide what was said then represents some view.

I think it is important to realize that we are in a—a company and a business concern is making a decision upon some unknown technology some time in the past. There are valid concerns, like you mentioned—sodium azide. People were not aware of what its potential was in terms of a hazard, or if it might be released in an airbag explosion.

There were other genuine business concerns about the cost—consumer acceptance. All of those at the time were not offered as excuses, but as simply the reality of trying to run a business, and build a vehicle, and make a profit.

I think it is a little disingenuous to always go back to the past and say oh, that was your way of trying to protest and to delay. I think I can offer you—genuinely speaking from our members—that they are convinced that consumers demand airbags, and that I think we are moving in that direction. And I think you will see them across the car lines very quickly.

Senator BRYAN. Mr. Dana, you may very well be right.

Mr. Hanna, I appreciate the candor. And that is never out of line as far as the Senators here—you are here not to be a captive, but to express your view.

But let me just say that the past is frequently prologue. And we are now looking at 1996, a time frame for the automobile passenger and driver side in this legislation. I respect your position with respect to it.

And Mr. Dana, with respect to the light truck, the mini-van—that is in the future. And I must say that the thing that will give your argument enhanced credibility is, if, indeed the industry does come forward and say look, we can do this, in a certain time frame, and we are agreed to be bound by it, and here is what

we are going to do, and here is the year that we are going to do it. And we will make a commitment for 100 percent implementation.

And understanding that not every manufacturer can speak for another manufacturer—but to come forward and say look, we support a rule that requires that sort of thing. I would have to say the record would appear, from my reading of it, to be bereft of that type of affirmative action on the part of the industry. And that is a challenge, it seems to me, that they have in terms of the proposals that we are looking forward to in these out years with respect to the mini-vans and the light trucks.

And perhaps you can, in effect, write history by recommending to your clients, and that the record at the end of this decade may be much different than at least it appears to me to have been as to the past.

And we will leave you with that. And we will leave you an opportunity if you want to submit any additional comments, or address any statements that were made by any of the previous panel members to which you specifically want to take exceptions. That certainly will be your right, Mr. Hanna, Mr. Dana. We will hold the record open.

And this subcommittee hearing will stand adjourned.

[Whereupon at 1:44 p.m. the subcommittee adjourned.]